

# Lighting the Way



Annual Giving Report 2013



## IITM VISION



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.

## IITM MISSION

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

## International & Alumni Relations Mission



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 and alumni

Serve the alumni community:

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

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Team members from left: Dhanasekar, Jagan, Manivel, Saravanan, Nirmala Jeyalakshmi, Archana, Kamala, Prof. Nagarajan, Suresh, Kavitha, Jayalakshmi, Vadhana, Arvind, Jafar and Uthaya.

It has been more than a year since we created the new Deanship for International and Alumni Relations, and the benefits are becoming apparent. IITM is making rapid strides in both the realms of alumni relations and internationalization.

Our interactions with alumni are now taking place on multiple dimensions. The high point for us is the sheer increase in alumni footfall on campus. There is no particular season now for alumni visits – they happen throughout the year. We are delighted that they are keen to spend a few days here, interact with students and faculty, and learn about the progress of the Institute and how they can chip in to help.

The “Alumni Leadership Lecture Series” is a runaway success, and we recently hosted the 50th lecture. Students never seem to be satiated when it comes to learning about the diverse experiences of alumni. It gives them a glimpse of the immense possibilities that beckon them when they step out. Our alumni are also deeply involved with several Centres on campus such as CSIE, CFI, and the Incubation Cell. A Lecture has been instituted in honour of Prof. Sengupto, the Founder Director of IITM.

There has been no let-up in the generosity of our alumni. The student financial support system put in place due to their munificence over the last few

years ensures that no student in distress is ever turned away. The Travel Grant for scholars going abroad for conferences continues to play a vital role in enabling them to develop to their full potential. The first semester at IITM is always a period of tough adjustment for many, particularly when the classes are large. The air-conditioning of large I Year classrooms, made possible by the Class of 77, reduces the fan-noise considerably and makes the classroom more comfortable, removing some of the irritants for freshers.

The Mehta family are our “honorary alumni” – such is their commitment to IITM. They have extended generous support for the expansion of the Bhupat and Jyoti Mehta School of Biosciences. The IITM Student Satellite project is going places and our students are likely to be the first that will launch an exciting scientific payload next year. We are thrilled that alumni have chosen to support this effort.

We have unveiled a Strategic Plan for 2014-20, which will propel the Institute to much greater heights. You can read about the salient aspects related to I&AR in this report. We have created an ambitious target of Rs 500 cr for the Institute’s Endowment. I am confident our alumni and friends will help us exceed this target.

- Bhaskar Ramamurthi

# MESSAGE FROM THE DEAN, I & AR



The Dean's Office of International & Alumni Relations (I & AR), established in October 12, strives to support the Institute's drive towards global excellence in education, research, industry relations, innovation & entrepreneurship, sustainability & social impact, internationalization, and physical infrastructure. The vision of the Office of I & AR is to enable IIT Madras to ascend to the "Top 30" in world subject rankings (engineering and technology) by 2020 (from its current position in the mid-60s). Its mission is to synergize and leverage faculty, alumni and international relations to achieve this vision. This Plan documents the associated year-wise objectives and targets.

IIT Madras has a historic nexus with Germany, and institutional relations with Universities and industry in Germany, as well as in other European countries such as France and U.K., continue to be strong. While many faculty have robust individual ties with colleagues in U.S. and Canadian Universities, institutional ties are less well-developed (due primarily to a lack of necessity). Australia, China, Taiwan, Korea, Hong Kong, Singapore and Malaysia present regional opportunities for growth in collaborations.

IIT Madras has graduated approximately 40,000 alumni, nearly 60% of whom are post-graduates. IITM has an excellent rapport with her alumni, with the links growing stronger by the day. Alumni have given back to the alma mater in many ways, including financial. Alumni in foreign universities and industry continue to play a catalytic role in fostering relations with IITM. Alumni entrepreneurs are providing tremendous support to aspiring student and faculty entrepreneurs. Many internationalization initiatives of IIT Madras are being borne on the broad shoulders of our proud alumni and alumnae diaspora.

While IITM's international and alumni relations are in a relatively healthy condition, this decade is a crucial period in their continued evolution. By combining the two Offices and creating an integrated Office of I & AR, the Institute has taken a significant step towards fully exploiting the synergies between the two. Given our constraints with respect to taking in full-time foreign students (both UG & PG), and hiring full-time foreign faculty, there is a need to intensify our efforts by providing exchange opportunities for both. IIT Madras will gain greatly by exposing its research scholars to the global research culture. Research output and quality are expected to improve as a result of this "meeting of unlike minds". It is anticipated that undergraduate students will benefit as well by exposure to such collaborative interactions among faculty that they are being guided by.

In terms of alumni engagement, fund-raising has thus far been a volunteer effort driven by the passion of dedicated alumni. Professionally-staffed Development Offices are becoming a necessity to take the inflow from \$ 2M to ten times that and beyond. External funds play a crucial role in meeting the aspirations of the Institute, even while Government funding takes care of its essential needs. In every arena of effort, especially in research and physical infrastructure, an infusion of funds can help IITM reach world-class standards. Thus, "Development" will be a key component of our alumni engagement in the remainder of the decade. We have established high standards in Institute-alumni interactions that directly link students and faculty with alumni for mutually-beneficial purposes; these will be maintained and enhanced.

This Strategic Plan is intended to provide a framework to benchmark our current status, and to track our progress using quantitative metrics. A "Top 10" set of action items are also indicated.

Year	Joint Ph.D Programs	Institutes engaged in joint supervision of Ph.Ds	Institutes engaged in research scholar exchanges	Institutes with active faculty collabs	Active MOUs	IITM faculty in active inter-national collabs	Foreign research scholars hosted on campus for 3-6 mnths	IITM research scholars visiting foreign labs for 3-6 mnths	Foreign students on campus for course-related programs & research internships	IITM students visiting abroad for course-related programs & research internships
2012	1	4	12	40	150	100	15	8	130	24
2013	4	6	15	45	180	120	20	15	140	30
2014	8	15	30	60	200	150	30	60	150	50
2015	11	20	40	70	220	180	40	80	160	70
2016	14	25	55	75	230	200	50	100	170	80
2017	17	30	60	80	235	220	60	110	180	90
2018	20	33	66	84	240	240	65	120	190	95
2019	23	36	70	88	245	260	70	125	195	100
2020	25	38	75	90	250	280	75	130	200	100

Proposed activities to achieve the desired results:

1. Building up of necessary staffing in Office of I & AR to identify & sustain strategic relationships, and the commissioning of world-class I & AR facilities on campus
2. Visits by Director and Dean, I & AR to key partner institutions to initiate, monitor and formalize interactions
3. Hosting of foreign delegations on campus for the same purpose
4. "Research interests mapping" to identify potential pairing between faculty and faculty groups across institutions
5. Engagement with industry to realize three-way interactions and joint projects
6. Formation of "account teams" (comprising of concerned faculty and I & AR Staff) to manage relations with strategic partners
7. Facilitation of faculty and research scholar mobility in order to enhance global collaborations
8. Location and communication of funding mechanisms to promote student & faculty exchanges
9. Organization of research collaboration "workshops" to intensify engagement with key partner institutions
10. Initiation of steps to make IITM campus increasingly hospitable to long-term foreign visitors

- R. Nagarajan

# SALUTING DISTINGUISHED ALUMNI

The pride of IITM alumni and an award that distinguishes outstanding alumni achievements and excellence in five different categories—Academic Excellence, Technology Innovation Excellence, Managerial Excellence, Entrepreneurial Excellence and Excellence in other walks of life—the coveted and prestigious Distinguished Alumnus Award has created a milestone by touching the magic number 100 this past year. Since inception in 1996, only 103 alumni have been honoured with this award.

The Office of Alumni Affairs is responsible for receiving the nominations under the various categories and coordinating with the selection committee, appointed by the Director of the Institute, for picking out the winners. The awards, usually around eight, are distributed once a year during Institute Day, in the middle of April.



## DISTINGUISHED ALUMNUS AWARDEES



YEAR OF AWARD

YEAR OF AWARD

1996



1997



1998



1999



2000



2001



2002



2003



2004



2005



2006



2007



2008



2009



2010



2011



2012



2013



Dr. Anand Rajaraman [1993/BT/CS]



After completing his Bachelors in Computer Science at IIT Madras in 1993, Dr. Anand Rajaraman went on to do his M.Sc. and Ph.D. at Stanford University, USA, in the same field.

He can best be described as a serial entrepreneur, venture capitalist and an enthused academic. The co-founder of Cambrian Ventures (a venture capital firm), his investments include Facebook, Aster Data Systems, Neoteris, India Infoline and YouSendIT. Dr. Rajaraman was also the co-founder of Jungle Corp. and played a key role in developing the company's award-winning Virtual Database technology. After its acquisition by Amazon.com, he also contributed to the metamorphosis of the latter from a retailer to a retail platform.

The focus of his academic research was the intersection of database systems, the World Wide Web and the Social Media. His research publications have won several awards at prestigious academic conferences, including two retrospective 10-year Best Paper Awards at ACM SIGMOD and VLDB. Apart from teaching a course on data mining at Stanford, Dr. Rajaraman has also co-authored a textbook "Mining of Massive Datasets" with Jeff Ullman, published in 2011 and downloaded over 100,000 times.

His accolades, starting with being awarded the President of India Gold Medal for his stellar academic record, are numerous. He was also the finalist at the Computer World Smithsonian Award for Innovative Technology in Business in 1998.

Dr. Hari Balakrishnan [1993/BT/CS]



Dr. Hari Balakrishnan received his Bachelors. in Computer Science from IITM in 1993 before completing his M.S. and Ph.D. at the University of California, Berkeley. His doctoral thesis on reliable data transport over wireless networks won the ACM doctoral dissertation award for the best thesis in Computer Science.

Having been a part of the EECS faculty at MIT since 1998, Dr. Balakrishnan has since received tenure in 2003 and a full professorship in 2006. A talented teacher, he has been the recipient of many accolades at MIT—the Jamieson Award (2012), the prestigious Harold Edgerton Faculty Achievement Award (2003), Junior Bose Award (2002) and the Spira Award (2001). He has also been the Fujitsu Chair Professor since 2011 and has been elected a fellow of the Association of Computing Machinery (ACM) in 2008 and the Sloan Foundation in 2002.

Hari Balakrishnan has made important contributions to the fields of communication networks and networked computer systems, with his pioneering research paving the way for new commercial products and standards. Dr. Balakrishnan developed the Snoop protocol, the first system to provide high TCP throughput over error prone wireless links, and also developed new methods for TCP over asymmetric and low bandwidth networks. A few noteworthy contributions include the RON overlay network, the Chord distributed hash table, the Cricket indoor location system, the Infranet anti-censorship system, the congestion manager and binomial congestion control.

One of the most cited authors in the field of computer science, Dr. Hari Balakrishnan has also co-founded and provided consultation for many MIT ventures like Stream Base Systems, Merali Networks (acquired by Cisco), Sandburst (acquired by Broadcom) and Cambridge Mobile Telematics.

## Dr. Kumar N. Sivarajan [1987/BT/EE]



**D**r. Kumar Sivarajan completed his Bachelors in Electrical Engineering at IITM in 1987 before pursuing his higher studies in the same field at California Institute of Technology, Pasadena, USA.

One of the pioneers in optical networking, Dr. Sivarajan has made fundamental research contributions to the structure of the field in a series of papers published in IEEE Transactions from 1990 onwards. At a time when optical networking was in its nascence, his work expounded comprehensively on optical network design, touching upon topology design, routing and wavelength assignment. His seminal paper on routing and wavelength assignment in all-optical networks also won the IEEE Communication Society Bennett Prize and IEEE WRG Baker Prize.

Dr. Sivarajan has also worked as a faculty member with the Indian Institute of Science, Bangalore, and with the IBM T.J. Watson Research Center, New York. He has co-authored the most widely used textbook in the field, "Optical Networks: A Practical Perspective".

As the co-founder and Chief Technology Officer of Tejas Networks, India's first optical networking start-up, Dr. Sivarajan guided the development of next generation optical transmission products at the company. Tejas Networks also has the distinction of being one of the few telecom product companies in India.

His accomplishments have not gone unnoticed. He is the recipient of several awards including the Global Indus Technovator award in InfoTech in 2004 by The Indian Business Club and the Techno-Visionary Award from the Indian Semiconductor Association in 2010. He has been inducted as a Fellow of the Indian National Academy of Engineering and is the recipient of the IEEE Charles LeGeyt Fortescue Fellowship and the Swarnajayanthi Fellowship from the Department of Science and Technology, Government of India.

## Dr. Ramanathan V. Guha [1986/BT/ME]



**O**n obtaining his Bachelors in Mechanical Engineering from IITM in 1986, Ramanathan Guha proceeded to complete his M.S. in the same field at the University of California, Berkeley, and his Ph.D. in Computer Science at Stanford. He has made seminal contributions that have revolutionized the use of the Web, creating structures that allow the organization of vastly different data formats available online. Dr. Guha worked alongside the W3C to create the RDF family of standards, the foundation for metadata on the Web. He is also credited with being the inventor of RDF feeds, which enables frequently updated pieces of information, ranging from the weather to the news, to be pushed to users.

The co-author of over 40 research papers and a book on artificial intelligence, he has been pivotal in the Indian government's NPTEL (National Program on Technology Enhanced Learning) collaboration with IIT Madras for setting up the programme's channel on YouTube. He also spearheaded the creation of schema.org, a cross-industry initiative that includes major search engines as members. Schema develops schemas to mark up web pages, which allows search engines and other applications to extract their underlying structured data.

Dr. Guha is also the co-founder of Epinions, a consumer reviews website, and Alpiri, a company that pioneered the use of knowledge bases in searches. Dr. Guha is a Google Fellow—the highest honour awarded by Google Inc. to its technical staff.

## Dr. S. Gopalakrishnan [1987/MT/AM]



**D**r. S. Gopalakrishnan completed his Bachelors in civil engineering at Visveswariah College of Engineering (University of Bangalore) before obtaining an M.Tech in applied mechanics at IITM, and earning a gold medal for outstanding performance. He went on to complete his Ph.D. in aeronautics and astronautics at Purdue University.

A renowned expert in Spectral Finite Element Methods (SFEM), Structural Health Monitoring (SHM) and Wave Propagation in Structures, he has aided the growth of SFEM globally and has authored the only book on the subject. Many universities have invited him to collaborate on research in SHM. Dr. Gopalakrishnan is the Chairman of the Aerospace and SHM-related Project Assessment and Review Committee under the National Program on Micro and Smart Systems (NPMAS), Government of India, whose mandate is to develop micro-devices and SHM products for aerospace and defense laboratories, and for national programmes. Serving on several

national and international councils and committees relating to aeronautical and aerospace engineering and research, he is currently managing Rs. 60 crores worth of projects.

A member of the Department of Aerospace Engineering at Indian Institute of Science, Bangalore, for the past fifteen years, Dr. Gopalakrishnan has been the meritorious recipient of many awards. In 2004, he was given the Satish Dhawan Young Scientist Award in Aerospace Sciences by the Government of Karnataka. He also received the Biren Roy Trust Award from the Aeronautical Society of India for his contributions to the field of Smart Structures and Structural Health Monitoring. He is a fellow of the Indian National Academy of Engineers and the Indian Academy of Sciences, Bangalore, and is the recent recipient of the Distinguished Visiting Fellowship from the Royal Academy of Engineering, UK.

## Dr. Sailesh Krishna Rao [1981/BT/EE]



**W**ith a Bachelors degree in Electrical Engineering from IITM, Dr. Sailesh Krishna Rao completed his Masters at the State University of New York and received his Doctorate in the same field from Stanford University, USA.

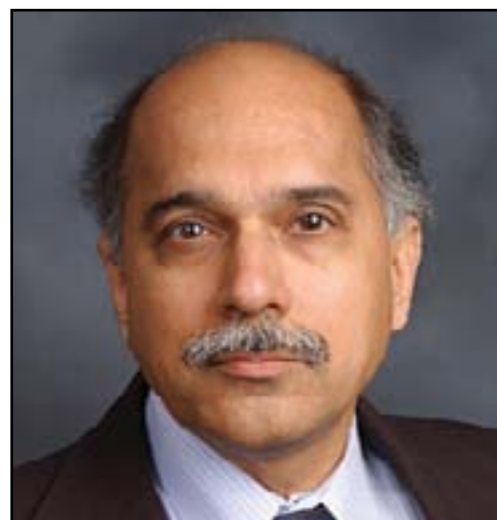
Following this, Dr. Rao was engaged in the creation of new communication technologies, helping ease the way for the Internet revolution. He worked at AT&T Bell laboratories and was the founder and president of Silicon Design Experts Inc., where he led the specification and development of the world's first single-chip real time MPEG video encoder. He was also the founder and the CTO of Phyten Technologies. To say that his technological contributions were groundbreaking is entirely justified with his development of the Gigabit Ethernet on Copper Standard, 1000BASE-T, still in use in internet datacenters and computers today.

Having contributed over 50 standards to the ATM Forum and IEEE 802.3 CSMA/CD Working Group, Dr. Rao has garnered 10 US patents and 3 Canadian

patents to his credit. He has also won several awards like the AT&T Distinguished Member of the Technical Staff (1990), 5 Exceptional Contribution awards from AT&T Bell Labs and the Intel Principal Engineer award (2003).

In 2005, he was profoundly affected by the global environmental crisis while viewing a presentation by former Vice President, Al Gore. Taking up the cause, he founded Climate Healers, a non-profit organization established with the goal of facilitating reforestation while minimizing the use of fossil fuel for cooking and lighting in low-income neighborhoods around the world. He recently penned a book, "Carbon Dharma: The Occupation Of Butterflies", calling upon us to undo the damage that our kind has done unto our planet. He was awarded the Karamveer Puraskaar Global Indian Award by the Indian Confederation of NGOs for the year 2008.

## Dr. Shankar Ramamurti [1969/BT/EE]



After receiving his Bachelors degree in electrical engineering at IITM, Shankar Ramamurti completed his Masters and Doctorate in theoretical physics at the University of California, Berkeley. A distinguished Particle and Condensed Matter physicist and a chaired professor at Yale, his contributions to the fields of statistical physics, particle theory and more recently, the Fractional Quantum Hall effect are outstanding.

A dedicated teacher, Dr. Ramamurti has authored over 100 journal publications and three books. He also designed and taught a one-semester sophomore and freshman course in Physics for over a decade. He wrote "Basic Training in Mathematics"—a course-based textbook that is widely used by several

institutions around the world. His lectures are available as videos online as part of Yale's Open Courses, funded by the Hewlett Foundation and are used around the world, even as core material for various courses.

Dr. Ramamurti has the distinction of being the only Indian after Nobel Laureate Subrahmanyam Chandrasekhar to receive the Harvard Junior Fellowship. He also received the Julius Edgar Lillienfeld Prize from the American Physical Society for his innovative applications of field theoretic techniques to quantum condensed matter systems. He has been a Fellow of the American Physics Society since 2001.

## Dr. Venky Harinarayanan [1988/BT/CS]

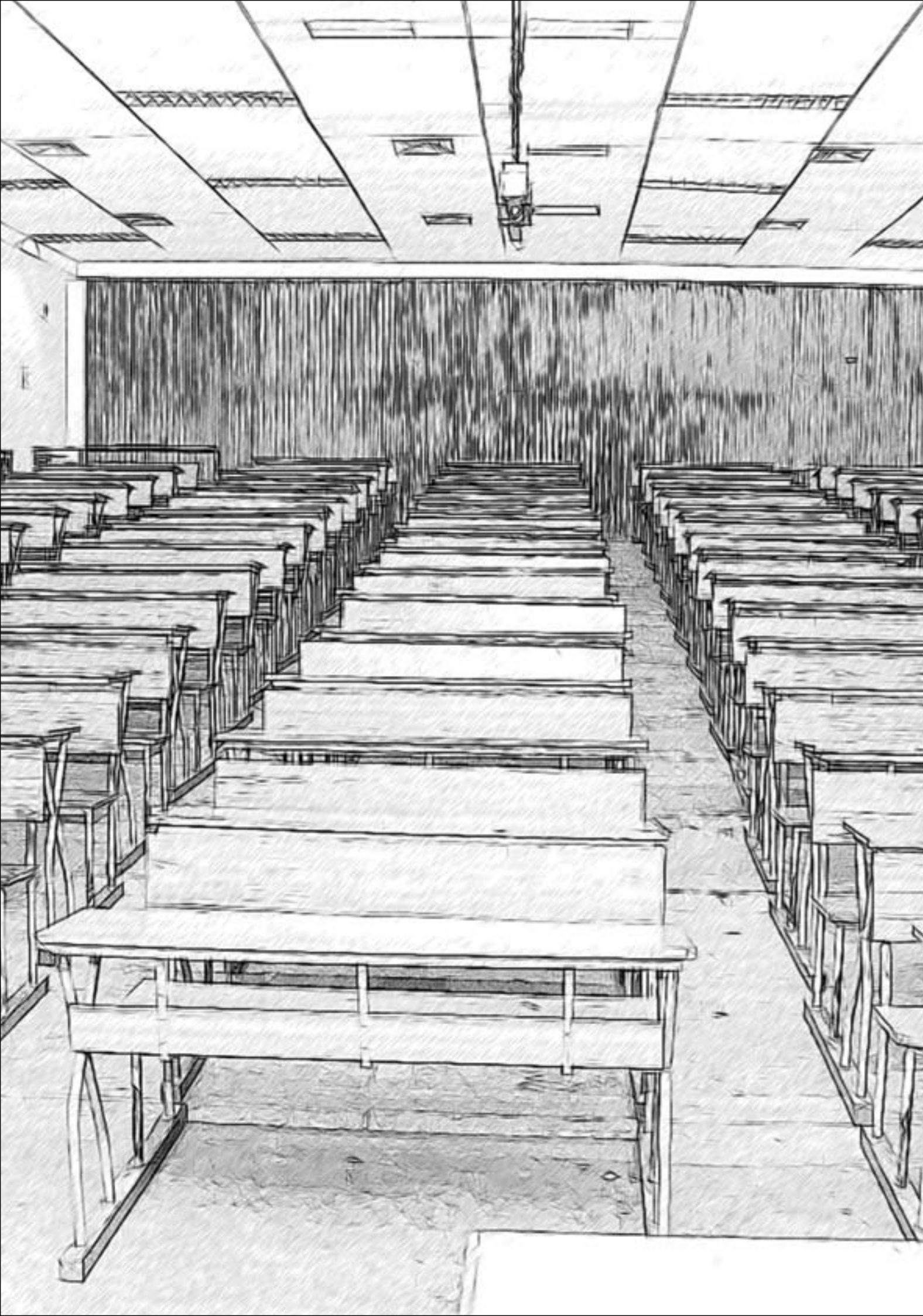


Venky Harinarayanan completed his Bachelors in computer science at IITM before obtaining his Doctorate in the same field at Stanford University, USA. A man of many talents, Dr. Harinarayanan juggles several roles—those of an investor, an entrepreneur and a leader in search and e-commerce. The co-founder of Cambrian Ventures and Kosmix, he was responsible for the start of Jungle Corp., a pioneer in internet comparison shopping, which was acquired by Amazon.com in 1998. He also lent a hand in the creation of Amazon's marketplace business, a revolutionary idea that had not been attempted previously. Marketplace is now Amazon's most profitable and fastest growing business. He is also the inventor of the concept that underlies Amazon Mechanical Turk.

Dr. Harinarayanan helped create the search advertising startup Efficient Frontier and now serves as board member and investor in the company. One of the largest search-engine and social-media marketing agencies, Efficient Frontier applies advanced portfolio management theory to online advertising. An active angel investor in India and the Silicon Valley, he is one of the five angel investors of Facebook. He is also a board member in TutorVista, based out Bangalore, a company acquired by Pearson LLC in 2001.

He has authored several technical papers, one of which received the ACM SIGMOD's best award in 1996. He is also the recipient of the 2006 ACM SIGMOD Test of Time Award.

# EDUCATION AND TRAINING



Smart classrooms, a skills development centre, funding for scholarships and students who may be in distress, awards of recognition...this is IITM's wish-list for raising the bar in the areas of education and training.

student funding

20

26

recognition

'alumni day' awards,  
alumni-sponsored

28

30

events

travel grant

36

## SPONSOR A STUDENT

Conceived in 2012, the Sponsor A Student project allows alumni members to financially support students from their alma mater. The project provides a wide variety of options, which are listed below:

- Tuition Fees—For Rs. 1,02,000 (USD 1800 ) per year, the donor can pay the tuition fees for a student
- Tuition & Hostel Fees—For Rs. 80,000 (till 2012 batch) ( USD 1600 ) and Rs.1,50,000 (from 2013 Batch onwards) (USD 2500) per year, the donor can take care of the hostel and tuition fees
- Airfare Option 1—For Rs. 75,000 (USD 1500) per year, the donor can cover the airfare of one student attending an international event, such as a conference, workshop, summit, competition or internship
- Airfare Option 2—For Rs. 1.5 lakhs (USD 3000) per year, the donor can cover all travel expenses for one student attending an international event
- Semester Abroad Option 1—For Rs. 1 lakh (USD 2000) per year, the donor can sponsor a semester abroad for one student at a nearby country (e.g., Taiwan, Singapore)
- Semester Abroad Option 2— For Rs. 2 lakhs ( USD 4000 ) per year, the donor can sponsor a semester abroad for one student at a more distant country (e.g., USA, Europe)
- Departmental award for 10 years—For a one-time payment of Rs. 1 lakh (USD 2000), the donor can sponsor a departmental award for 10

years to be given on “Alumni Day” (the day after Convocation in July)

- Institute award for 10 years—For a one-time payment of Rs. 2 lakhs, the donor can sponsor an Institute award for 10 years to be given on “Alumni Day” (the day after Convocation in July)

The project, which has found many takers has this year sponsored tuition and hostel fees for five students. The 2003 batch also chose to direct their donations to this project, helping finance the education and hostel costs of a student for the years 2012 and 2013.

The beneficiaries of this project for the year 2013 are:

- Gayathri Meka [CS12B043] — Sponsored by 2003 batch
- Maryala Nikhil [CS13B017] — Sponsored by 2003 batch
- Mullangi Sai Bharadwaj Reddy [CH12B043] — Sponsored by Shri K.V. Reddy [1972/MSc/CY]
- Nagireddy Harishreddy [ME13B050] — Sponsored by Shri S. Ramakrishnan [1974/BT/ME]

The project beneficiaries for the year 2012 are:

- Rony Gracious [CE12B051]
- Bhosale Shashank Rajendra [ED12B012]
- Mullangi Sai Bharadwaj Reddy [CH12B043]
- Jinka Pradeep [CE12B027]
- Meka Gayathri [CS12B043] - Sponsored by the batch of 2003



Gayathri Meka

I feel immensely fortunate to have received the Sponsor-A-Student scholarship this year as well. I am writing to thank you for your kindness and generosity. Providing me with this financial support, I believe, will make me a more independent person, capable of making my own decisions, and help me get one step closer to what I would like to achieve in life. It has also inspired me to help others by giving back to the community. I hope that one day I will be able to help other students achieve their goal just as you have helped me.



Mullangi Sai Bharadwaj

This is M. Sai Bharadwaj Reddy, who received a scholarship from you. I am very thankful to you, Sir, as the scholarship really helped me not only in terms of money for reimbursing my semester fee but also by giving me confidence that some people trust my intelligence and hard work. This feeling of confidence has helped me a lot in my studies as well. Finally, Sir, I am very thankful to the alumni who are providing me this scholarship and I will later do my best to help the students who are in need and also the society as an alumni member of IIT Madras.



Shashank Bhosale

I am writing to express my sincere gratitude to you for making the scholarship possible. I was thrilled to learn of my selection for this honor, and I am deeply thankful for your support. The financial assistance you provided will be of great help to me in paying my educational expenses, and it will allow me to concentrate more on my studies. Thank you again for your generosity and support. I promise you that I will work very hard and eventually give something back to others, possibly a scholarship to future students like myself.



Maryala Nikhil

I wish to convey my thanks to the Office of Alumni Relations and the batch of 2003 for the help and support they have provided. I am from a normal middle-class family. My father is a government teacher. Being a general category student, it was very difficult for me to get into IIT with a decent rank and scholarships. I was in great need of help, which fortunately came in the form of the OIAR and alumni. I am extremely grateful for the kindness you have shown towards me and I assure you that I will not let you down. I will develop good character and competency, and work hard.

## TECHNIP SCHOLARSHIP

With Technip—Air Products’ Global Alliance—now celebrating its 20th anniversary, IIT Madras found itself the recipient of a scholarship contribution of \$50,000. Philippe Barril, SVP and COO, Onshore–Offshore, addressed the final year students of the Ocean Engineering department, encouraging them to innovate and improve ideas in the offshore/subsea design engineering sphere.

The Institute intends to utilise this generous one-time contribution to support the new wave of innovators and invest in technology-driven projects.



## EXTERNAL TRUSTS

Alumni funding has always been one of IITM's biggest wellsprings of support and encouragement. This year, members of the alumni have ventured to set up external trust funds for the

students of their alma mater. These trusts serve to buttress the seven pillars of IITM's developmental agenda as they rise towards a single purpose.

### K.S. VARYANI TRUST

The K.S. Varyani trust was established by Mrs. Maya Varyani as an external trust in the memory of her husband, Dr. Kamlesh Shyamdas Varyani. He was a former faculty member of the Department of Ocean Engineering at IITM as well as the Department of Naval Architecture and Marine Engineering at the Universities of Glasgow and Strathclyde, UK. The endowment was set up to offer financial support to deserving students who wished to travel to the UK to pursue their M.S. or Ph.D., or make use of

other study abroad options in the field of naval architecture and ocean engineering.

The endowment gives an annual return of Rs. 8 lakhs. The funds are disbursed in two equal instalments June and January in the form of reimbursements. Candidates are selected by a committee formed within the Department of Ocean Engineering, with the Head of the Department serving as its chairperson.

### SSAN TRUST

The SSAN Ananya IITM Educational Trust was created by Sunderam Swaminathan [1969/BT/ME] with the aim of providing interest-free loans to B.Tech and Dual Degree students who were unable to cover their tuition and living fees. The trust has committed to support five students from the first academic year 2013-2014 at Rs. 1.2 lakhs each and hopes to extend this to at least 100 students within 12 to 18 years.

Candidates who receive the scholarship from the trust have a responsibility towards ensuring its continued functioning to support larger numbers of students who are in financial trouble, and therefore take measures to pay back their loans. Beneficiaries can start paying their loan back five years into earning at a reasonable rate of Rs. 10000 per month. If they are willing, they can also contribute a little more.

The administration of the loan is taken care of by the Deans of Academic Courses and International and Alumni Relations, coordinating with Mr. Swaminathan. Interviews were recently conducted to

select and eligible candidate and chose Vaddi Satwik, a Dual Degree student from the department of electrical engineering. The eligibility for candidacy are:

- They should be meritorious academically and be economically inadequate
- They should not have received other forms of financial assistance
- Their parental income should be less than Rs. 12 lakhs per annum (subject to relaxation for special considerations)
- In special consideration for the profession of teaching, some of these conditions may be waived for the wards of the teaching faculty of IITM (in service and retired).

The Founder and Managing Trustee of SSAN Ananya, S. Swaminathan, himself a scholarship holder IITM, hopes his this act of act of 'paying it forward' will inspire students to uphold the social imperative of serving their society, and perhaps paying it forward at a later stage of their lives.



“The trust has committed to support five students from the first academic year 2013-2014 at Rs. 1.2 lakhs each and hopes to extend this to at least 100 students within 12 to 18 years.”

# STUDENT DISTRESS FUND

# ALUMNI SUPPORTED STIPEND

Established by the IITM Alumni Charitable Trust in 2007, the Student Distress Fund aims to provide aid and assistance to current students and research scholars whose families are unable to bear expenses for:

- Medical emergencies
- Major family emergencies which render the students' families incapable of providing for continued education

In the latter case, the tuition and living expenses for the student or research scholar will be provided so as to help them continue their education.

In 2013 alone, 4 students have been supported through this fund. Recently, Rs. 24,000 was provided to a student, Mohammad Salim Khan, to help him continue his education.

If you would like to extend a helping hand, please contact the Office of International and Alumni Relations for more information.



Launched on the 4th of November, the alumni-supported stipend was created following a request from the Students' General Secretary and the Branch Counsellor for the MA programme. In order to earn said stipend, the 10th semester MA students have resolved to shoulder the following responsibilities:

Assist the faculty with the preparation of resource material

- Conduct quizzes, examinations and tutorial sessions
- Manage the DCF and Library

Students may also be assigned similar work by the Department or by the Dean of International and Alumni Relations and will be expected to work 6 hours every week. The stipend is being sponsored with alumni support through the IIT Alumni Charitable Trust.



## excellence in teaching award

Instituted in 2012 by DA Professor Marti Subrahmanyam [1967/BT/ME], the Srimathi Marti Annapurna Gurunath Award for excellence in teaching felicitates a single candidate a year for their proficiency in teaching.

The award, an endowment of Rs.12 lakhs and an annual interest of Rs. 60, 000, is presented during Institute Day. Of this, Rs. 50,000 sponsors the cash award while the remaining is used for the recognition event itself. The selection process involves collation of feedback from both the faculty and the students and submission to a committee for review. The committee is chosen by the Director who reviews the scores before suggesting a name for the award.

This year's recipient, Dr. Chakravarthy Balaji obtained his B.E. in Mechanical Engineering from the Guindy Engineering College in 1990 with a University Gold Medal and many others for academic excellence. He then completed his M.Tech and Ph.D. at IIT Madras in the area of "Heat Transfer". He has been a faculty member in the Department of Mechanical Engineering of IITM since 1998. His areas of interest include heat transfer, optimization, atmospheric science, geophysical retrievals and satellite meteorology.

He has several journal publications to his credit and has undertaken several research projects for ISRO, DRDL, BHEL and IGCAR. In 2012, he was elected Fellow, Indian National Academy of Engineering. He is also the recipient of the Humboldt Fellowship and other awards including the Swarna Jayanthi Fellowship of the Government of India, and the

Tamil Nadu Scientist Award. He also received the Young Faculty Recognition Award at IIT Madras in 2007.

Dr. Balaji has several qualities that make him an exemplary teacher. He prepares thoroughly before every class even when familiar with the material, and works out every example in his teaching material before he using them in class. Adept at handling large classes, he ensures that every student present understands his lecture. He is an advocate of peer interaction and is extremely participative in discussions of topics both simple and complex with students and faculty alike. His interest in teaching and discourse is well-known, making him an oft-selected invitee at functions and conferences on teaching at engineering institutions and schools on various aspects of the teaching-learning process.

He is the author of two books titled 'Essentials of Thermal System Design and Optimization' (2011) and "The Joy of Teaching" (2012). Dr. Balaji believes that Teaching is a tapasya and has to be treated with reverence; he affirms that good teaching is all about "optimal nervousness" before every class. He also believes that sustaining motivation and passion over the years holds the key to being an effective teacher. He maintains that while good teaching is important, being a good teacher is all the more so.

Dr. Balaji is an inspiring example of a teacher whose flair and passion for teaching endears the students. 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.



## RECOGNITION

### young faculty recognition awards

The Young Faculty Recognition Award was instituted by alumni member, Dr. P Balasubramanian [1971/BT/AE & 1973/MT/IM] in order to promote excellence in teaching and high-quality research. These awards were presented to outstanding young faculty members on Teacher's Day to acknowledge and felicitate their achievements in their respective academic and pedagogic fields.

This year, the recipients of this award were:

- Dr. A. Arockiarajan, Applied Mechanics
- Dr. Madhulika Dixit, Biotechnology
- Dr. Bobby George, Electrical Engineering
- Dr. K. Kalpana, Humanities & Social Sciences



Dr. A. Arockiarajan



Dr. Bobby George



Dr. K. Kalpana



Dr. Madhulika Dixit

# 'ALUMNIDAY' AWARDS, ALUMNI-SPONSORED



## chemclave

The Chemical Engineering Society (CHES) is a student and faculty body of the Chemical Engineering Department of IITM. It was established to provide a learning platform to broaden the knowledge of the students of the Department. The CHES aims to expose its student members to a more holistic and interdisciplinary view of the subject and provide an understanding of its wide-ranging applications in other areas of science and engineering. CHES organizes workshops, projects and industry visits to augment students' knowledge and skill-sets.

The Society also conducts the Department's cultural and knowledge-exchange event, Chemclave. Earlier known as Alchemy, the event welcomes participants from all over the country and features talks from eminent personalities. Chemclave is held over a period of three days in March and is packed with contests, demonstrations, lectures and workshops. Students spoke to children from a Velachery school, about the importance of staying in school and pursuing higher education, entertaining them later with a Rubik's cube solving session. The "Run for a Cause" marathon, in collaboration with SPAAK—which is responsible for running a school for the physically disabled—saw an impressive turnout. There were other events that tested the students' knowledge in chemical engineering and also pushed them to use their knowledge creatively. Events such as Industry Defined Problem, Chemical X, Chem Innovate, Censeo, ChemTrek, and Puzzle Champ were interspersed with the standard fare of quizzes, lectures, workshops, and paper/poster presentations.

Chemclave 2013, which was a resounding success, was generously sponsored by several alumni members from the Chemical Engineering Department. We thank our alumni donors Ashok Krishna [1974/BT/CH], Shri Ganapathy Krishnan [1982/BT/CH], Murthy Devarakonda [1984/BT/CH], Krishnaraj Sambath [2008/BT/CH], Endanna Pallula [2008/BT/CH] and Shri Tanmay Voore [2009/DD/CH] for CHEMPOWERING the world!



## EVENTS

## forays



Forays, the two decade old highly successful annual festival of the Department of Mathematics, took place on the 9th and 10th of March. Forays 2013, like its previous editions, was packed to the brim with mathematical challenges, engaging quizzes, Olympiads, interactive games, mind-bending puzzles and seminars. The festival beckoned the number crunchers and the mathematical whizzes as well as the mathematically agnostic of various ages to experience and participate in a fiesta of challenges—math, reason, and pure intellect. The festival, attended by students and faculty of reputed schools, colleges and institutes from all over the city, aims to achieve the following:

- Inculcate an interest in mathematics
- Provide a platform for talented students to express their creativity and mathematical aptitude
  - Encourage students to pursue higher studies and careers in math
  - Commemorate the legacy of Srinivasa Ramanujam
  - Expose the audience to the fun and recreational sides of math

The event was conducted using the interest accrued from the generous donation by the batch of '84. Details of the this event can be seen at <http://mat.iitm.ac.in/forays/forays%202013/home.html>.



## BIOMERS

## SAMANVAY

“Samanvay was conceived as a platform for young minds to communicate their ideas and thoughts on management, helping them learn and grow into leaders in their fields.”

The four-day long event, Samanvay is an annual feature of the Department of Management Studies and sponsored by the Office of International and Alumni Relations.

Touted as a confluence of the top business schools in the country, Samanvay has truly lived up to its name, growing in stature and popularity with each passing year. It showcases a multitude of events, including a Management Conclave that features leading speakers from various fields who share their unique perspectives and experiences.

Samanvay was conceived as a platform for young minds to communicate their ideas and thoughts on management, helping them learn and grow into leaders in their fields. Going by the turn-out in these events, Samanvay seems to have achieved just that and with great success.

The annual Life Sciences symposium, Biotech Meet for Researchers, or BIOMERS in short, was held for the second time on the 16th and 17th of November 2013. This symposium, conducted by the Research Scholars of the Department of Biotechnology, is an effort at enabling knowledge exchange between academics and researchers to spur new research; re-look existing innovation and research paradigms; and inspire a spirit of invention among the bright young minds at IITM. BIOMERS was inaugurated by the Director of the Institute Dr. Bhaskar Ramamurthi who commended the idea and sought similar efforts from the other departments in the Institute.

The symposium was a mix of oral and poster presentations—by students, faculty and scientists (from academia and industry)—and lectures by eminent speakers, all of were interspersed during the two days. The lectures were, not surprisingly, a

huge draw, with an impressive line up of speakers who are experts in the field—Dr. Amulya K. Panda (Staff scientist, National Institute of Immunology), Dr. Yamuna Krishnan (Reader 'F', National Centre for Biological Sciences), Dr. Suvro Chatterjee (Research Scientist, AU-KBC), and Dr. Durairaj (GM—R&D, Orchid Pharmaceuticals). Department faculty members, like Dr. A. Jayakrishnan and Dr. Athi Narayanan also spoke.

The presentations and lectures broadly explored subjects life sciences, computational biology, interdisciplinary biology, and bioprocess. These informative discourses centred on the interdisciplinary nature of research in biotechnology, the opportunities available and the benefits of innovation in this fast growing industry.

IITM believes that such events broaden outlook and help in the pursuit of excellence.



## BIOFEST

## WAVEZ

The second edition of the annual technical festival of the Biochemistry Department at IITM, held on the 13th and 14th of April, was a medley of contests, workshops and lectures. The event was conceived with the objective of promoting the growing field of biotechnology and creating an academia-student-industry nexus for bright young minds around the country. The theme of Biofest 2013 was Medical Biotechnology.

Apart from generic events such as the open quiz and the paper and poster presentation, the students were treated to a smorgasbord of innovative contests where they pitted their wits and talents against a variety of challenges. Bio-robotics induced competitors to develop their very own bio-bot, while Streak challenged artistic sensibilities to create evocative agar art. The GD and the Forensics challenges tested the analytical and lateral thinking abilities of the participants. Bio-biz was the quintessential B-plan competition and Bio-Docks, a contest in innovation that invoked their bio-informatics skills and knowledge. There was also a lecture on being a technopreneur by Ms. K. Rajeshwari, founder and Managing Director of Bioklone, Chennai.

BioFest 2013 was an open invitation to the world of biotechnology where the curious, the uninitiated and the informed, all got not just ring-side seats but an insider's view of the fascinating arena of biotechnology.

Wavez, the annual Ocean Engineering department festival, was held with much aplomb this year on the 9th and 10th of March 2013. Sponsored by the Office of International and Alumni Relations, the event was nothing short of a resounding success with huge numbers of students participating actively.

Apart from the lectures, the research expo and treasure hunt, the two day-event consisted of contests and activities that were unique to each department's specialisation. 'Roboceana' invited participants to design robots that could function on land and under water. 'Desmod' consisted of a technical session about the creation of computer simulated models, followed by a practical workshop. The 'Triathlon' consisted of three challenges, which tested the participants' practical engineering skills.

'How Structures Fail' was another novel contest which challenged participants to explain how structures were destroyed in various instances by using only engineering and scientific concepts to explain them. While 'Gamedrome' was a haven for hardcore gamers who got to play favourites like Counter Strike and Need for Speed, Open House allowed everyone a peek into ongoing projects at the department and its world class research facilities. The event ended too soon for most, leaving participants thirsting for more.

Wavez was a highly charged event that provided the much needed platform for students of the department to test their classroom knowledge and push the boundaries of application and innovation.

The event was conceived with the objective of promoting the growing field of biotechnology and creating an academia-student-industry nexus for bright young minds around the country.



# TRAVEL GRANT

The alumni-sponsored Travel Grant program is the most popular program amongst the student community in the Institute. The Grant provides required financial resources to aid student participation in workshops, summits, competitions, and international conferences for presenting papers.

The Excellence-in-Research Travel Grant was initiated in 2012 with funds from the 1980 Batch to enhance the existing Travel Grant program for research scholars. The criterion for eligibility for this grant

is excellence in research demonstrated through publications and citations. The grant reimburses 80% of the out-of-pocket expenses.

In 2013, the programme was expanded to include faculty as beneficiaries. Faculty members are often required to travel abroad for research collaborations and possible joint research programs with universities that share common research interests-something that is not covered by Government funds.

The following visits were enabled by the Travel Grant in 2013:

- Professor Bhaskar Ramamurthi and Professor Nagarajan's visit to universities in Australia
- Faculty participation in the Purdue-IITM Workshop at Purdue University, USA. The participants included Prof. Sathyanarayanan R. Chakravarthy (AE), Dr. Binitha V. Thampi (HSS), Prof. Amitava Das Gupta (EE), Dr. Edamana Prasad (CY), Prof. Sudheer K.P. (CE) and Prof. Sarit Kumar Das (ME)
- Faculty travel to universities in Texas for workshops and meetings, and participation in the PAN IIT Conference in Houston
- Faculty participation in Penn state-IITM Workshop at the University Park campus of Penn State University. The workshop was attended by Prof. S. R. Chakravarthy, Dr. Rajesh Nair, Dr. Abhijit Sarkar and Prof. N. Sitaram

The Travel Grant serves to increase student and academia interaction internationally. It helps to build credibility about IITM as a centre for excellence in education, research, and innovation, among top Universities overseas.

1980 Batch		
Students		Amount (₹)
MS	3	131,000
PhD	30	12,52,600

The Travel Grant provides required financial resources to aid student participation in workshops, summits and international conferences

MAANA Travel Grant		
Students		Amount (₹)
B.Tech	13	245,000
Dual	21	428,600
M.Tech	4	155,000
MBA	5	150,000
MS	7	141,000
PhD	29	663,700
Group-Students	1	300,000

Ram Sundaram Travel Grant		
Students		Amount (₹)
B.Tech	10	457,000
Dual	15	753,000
M.Tech	2	61,000
MA	6	200,000
MBA	9	573,000
MSc	1	70,000
Group-Students	1	200,000

Financials of the 'Excellence in Research' Travel Grant	
Source of Funds	Amount (₹)
Total amount received from 1980 batch towards TG	70,66,710
Total amount disbursed	59,64,858
Balance	11,01,852

## the cedar conference

On the 2nd of May 2013, Fulbright Nehru Distinguished Scholar, Professor G.G. Sivjee (Director, Space Physics Research Lab at ERAU, Florida) paid a visit to IITM, when the IITMSAT project caught his attention. It was upon his recommendation that student Nithin Sivadas attended the CEDAR (Coupling, Energetics and Dynamics of Atmospheric Regions) Workshop 2013.

An annual event organised by the UCAR (University Corporation of Atmospheric Regions), the

Conference hosts scientists from different disciplines who converge at this venue to discuss atmospheric and ionospheric physics and their environmental implications.

Nithin Sivadas' travel was sponsored by the IITMAANA Travel Grant programme. Two posters were presented at the workshop, of which one received honourable mention among the 111 entries.

## university scholars leadership symposium

Conducted from the 1st to the 7th of August 2013, the University Scholars Leadership Symposium, an international humanitarian leadership programme aimed to provide an interactive learning resource for the management and implementation of successful humanitarian service projects in local

communities around the world. Held in Manila, Philippines, the theme, "Eradicating poverty from society", elicited interesting discussions which examined global concerns about this creeping malaise and strategies for its management and mitigation.

## model united nations at new york

The New York-Global Young Leaders' Summit International Model United Nations was the first of its kind held in the USA. Held from the 26th to the 29th of March, the event was attended by students from different schools and colleges from all over the world. Inaugurated at the UN Headquarters in Lower Manhattan, the principle aim of the event was to bring together culturally diverse groups of individuals from different continents and offer them

an intensely challenging environment for debate, with the United Nations as the setting. Each committee discussed 3 specific topics relevant to their area of expertise, and proposed resolutions to be later placed as suggestions with UN delegations. All ten IITM students received Outstanding Delegation Awards and three won awards for individual performance.



# INFRASTRUCTURE



IITM aspires to build state-of-the-art hostels, academic buildings, and eateries for its 15000+ population on campus. Proposed infrastructure embellishments include parking & transport facilities to minimize disruption to the campus ecosystem, student-run facilities to encourage innovation & discovery, and high-quality sports facilities including an Olympic-standard swimming pool.

classroom comfort for  
CRC

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ground-breaking  
ceremony—mehta family

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inauguration of the  
HPC cluster VIRGO

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## classroom comfort for CRC

Dr. Subra Suresh [1977/BT/ME] along with his batch-mates inaugurated the newly air-conditioned classroom complex in the Institute on the 20th of July, the annual Alumni Day. The batch donated the funds required for the installation. The existing large capacity centralised air-cooled chiller plant has been put to good use, its spare energy now being used to power this complex. Given Chennai's infamous and chronic humidity, the complex has, not surprisingly, already received positive feedback from the faculty and students.



Anukriti Gupta [CH12B012] feels that the air-conditioning has definitely helped, and the large capacity of ACs, has helped make the summer months more bearable. Echoing Anukriti's view, Aditya V.S. [ME11B155] said about the air-conditioned classroom, "The AC is very beneficial. It was impossible to sit in CRC before it was installed especially during the summers. If we had the misfortune of getting stuck in the middle row, the only thing we used to think about was getting out of the class. Now it's much easier to sit and listen in any class and it's a relief if a class is scheduled in CRC." Endorsing this positive feedback is Amarnath M. [ME12B153] who concurs that the AC is really useful, obviating the need to queue up by the fans in the summers.



## new digital projector for OAT

The Open Air Theatre (OAT) is one of the most memorable landmarks on campus for anyone who has made the Institute their home. Used for movie showings, cultural and technical events, the theatre has a seating capacity of over 7,000 people. Being one of the older structures at IITM, the OAT had been airing movies using analogue prints, which in recent years has been getting increasingly harder to procure owing to increased digitization. To keep up with the times, the Film club decided to switch to digital projection and approached the Director and committee of Deans for help.

With generous funding from the batch of 1975 and alumni members Niranjana Nilakantan [1996/BT/CS] and Suresh Kalpathi [1986/BT/EE], along with immense support from the Institute, a facility for digital projection was set up at a cost of about Rs. 33 lakhs and a digital audio processor costing Rs. 2 lakhs was procured.

The facility was inaugurated on the 15th of June with the screening of its first digitally projected movie, the Tamil film Soodhu Kavvum, which proved to be a big delight for its eager audience.



## GROUND-BREAKING CEREMONY MEHTA FAMILY



The Mehta family has had an intimate association with IIT Madras, starting with their funding of the Bhupat & Jyoti Mehta School of Biosciences. The family was recently invited to IITM for laying down the foundation stone of the Biosciences II building, funded by the Mehta Family Foundation. Following this, Jainesh 'Jay' Mehta, Director of the Foundation, adjourned to the Leadership Lecture Series, where he spoke about "Entrepreneur's values." He later spent time with the faculty and recounted his personal experiences with the faculty, alumni, students and young entrepreneurs at IIT Madras.



## INAUGURATION OF THE HPC CLUSTER VIRGO

IITM recently commissioned the addition of the Virgo Supercluster, an IBM iDataPlex rack assembly, to its High Performance Computing (HPC) facility. TOP500, a global project that details the most powerful known computer systems in the world, recently ranked the Virgo Super Cluster at IITM 364th among the top 500 fastest computing clusters. This supercluster also has the distinction of being the fastest among those in other educational institutions in India. That the cluster places 5th globally and the highest in India for energy efficiency is particularly notable in view of IITM's strong sustainability agenda.

The Virgo cluster, which was inaugurated for dedicated use by the faculty and students of

the Institute on the 28th of March 2013, will increase the speed of computing and accuracy of research experiments. In terms of performance, the Supercluster has an Rmax of 91.126 TF and RPeak of 97.843 TF. It currently serves 100 faculty members and 500 research students at IITM and is expected to provide the vast computing capabilities required for various ambitious projects at IIT-Madras.

Alumnus Padma Bhushan 'Kris' S. Gopalakrishnan [1977/MS/PHY and 1979/MT/CS] was the chief guest at this occasion. He took time to speak with budding student entrepreneurs motivating them with stories about his experience with startups.



# RENOVATION OF THE LIBRARY AT NARMADA

Despite being in the digital age, the importance of reading academic and non-academic books has not diminished in any way. Libraries were installed in the hostels to encourage regular reading among its residents. However, the Narmada hostel library was in a sorry state, housing dilapidated books with missing pages alongside volumes of outdated textbooks and therefore started to lose readers.

Recognising this, the Hostel Council of Narmada has undertaken an initiative to increase the choice of books and improve the storage quality. With appropriate funding, the council hopes to:

- Convert the second floor common room into a literary-social room
- Build a collection with new bestsellers, classic literature and academic material prescribed in the curriculum

- Furnish the room with bookshelves, tables and chairs to provide a comfortable reading experience

The Office of Alumni Relations sent out a request to former Narmada residents and received an overwhelming response. Special thanks are due to the donors, particularly Krishna Kant [1967/BT/CE], Ramaswamy Balasubramaniam [1975/BT/ME] and Ram Kishan [1994/BT/EE].

As a result of their generosity, the Office of International and Alumni Relations has been able to deploy Rs.1,37,000 towards this cause. Rs.15,000 has been used to purchase books, both fiction and non-fiction. Three plywood bookshelves with glass casing have been put up, each with 4 compartments and a stacking capacity of 250 books. The library now boasts a collection of popular books that include the Lord of the Rings trilogy and the P.G. Wodehouse series.





# INNOVATION AND ENTREPRENEURSHIP

The Incubation and Innovation ecosystem at IITM is founded on 4 pillars - Ideation, Pre-Incubation, Incubation and Support Services. Ideation often occurs through class projects, laboratory and field research, as well as through projects undertaken at the Center for Innovation. Ideas with a commercial potential are screened at the IITM Incubation Cell and may be pre-incubated at C-Tides or directly at the IITM Incubation Cell, the Rural Technology Business Incubator, or the Bio-Incubation Cell. As per the new Incubation policy, IITM will provide incubatees with a combination of space, mentoring, funding and access to accounting and legal services in exchange for equity up to 9.5% of the company. The IITM Entrepreneurs Forum, C-Tides and CSIE work together to fund and mentor incubatees. All told, the ecosystem is robust and committed to fostering entrepreneurship. In the past year, IITM has incubated 50+ companies. Funding will support the mission of this vital pillar.

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and inaugurations

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cnc subtractive  
prototyping machine

## E-week celebrations

IIT Madras, for about three decades, has been the breeding ground for over 70 companies and several more entrepreneurs. As an impetus for the sustenance of technology, social enterprise, and innovation, and a thrust towards entrepreneurship, IITM launched a new program, the E-week, dedicated solely to celebrating and fostering entrepreneurship within the IIT community. The first edition of E-week was held from the 3rd to the 9th of March.

The week began with the Startup Showcase featuring 6 unique start-ups that were incubated at IITM. This was followed by presentations from the various units currently involved in entrepreneurship—the Center for Innovation (CFI), The Rural Technology Business Incubator (RTBI), the Cell for Technology Innovation Development and Entrepreneurship Support (C-Tides), the Bio-incubator, and the Center for Social Innovation and Entrepreneurship (CSIE). Two new additions were made to this list during E-week: the IIT Incubation Cell, which intends to act as the nodal agency for incubation on campus and the IIT Entrepreneurs Forum, an alumni-driven initiative started by the alumni to support entrepreneurship in their alma mater.

The week was filled with panel discussions on various topics like the advantages and challenges of being an entrepreneur, opportunities across various sectors and the progress of entrepreneurship at IITM through the years. An “Unconference” was held for the benefit of faculty members who wished to pursue an entrepreneurial route. The Lightning Pitch event at the Research Park was well-attended, where nearly 25 aspiring entrepreneurs elaborated their ideas to a panel of experts.

The large audience for E-week testified to the prominence the student and faculty communities of IITM place on entrepreneurship. The Institute envisages that the subsequent years will see a slew of associated activities and events prompted by the success of E-week.



## achievements from the bhupat & jyoti mehta school of biosciences

IIT Madras has a long list of graduates who have brought pride to the Institute with their discoveries and achievements. Recently, Sagar Laygude, Namrata Kamat and Rajashekar Palavalli Reddy added their names to this distinguished list. The trio, who graduated in 2013, struck out on their own by starting a company called Life Catalyst Technologies. The Company was incubated under the Biotechnology Entrepreneurship Support Scheme, a combined initiative of the Department of Biotechnology, IITM, and Dr. Shrikumar Suryanarayan [1982/BT/CH]. The three graduates have already been drawing praise and accolades for their achievements.

It is noteworthy that this team was the winning one from India at the INDIAFRICA Business Venture Competition, sponsored by the Ministry of External Affairs, Government of India. The team, along with another winning team from Africa, have been chosen to voice their opinions at the World Economic Forum in Davos, Switzerland. The IITM team also received one of the grand prizes for innovation.

At ABLE BEST, a national biotechnology business plan competition of great repute, the three once again bagged the first place. As a result, the team won the opportunity to attend ABLE's BioInvest Conference, one of the largest and most prestigious life sciences investment forums, to present their business plans to venture capitalists, private equity fund managers and other investors. The competition was organised by ABLE and supported by the Department of Biotechnology, Ministry of Science and Technology, Government of India.

The entrepreneurial success of such students once again testifies to the premium the School of Biosciences

places on research excellence and innovation.

A project focused on the development of environmentally friendly and cost effective liquid bio-fertilizers with long shelf life, is one that has been shortlisted for funding. A biofertilizer (also bio-fertilizer) is a substance which contains living microorganisms which, when applied to seed, plant surfaces, or soil, colonizes the interior of the plant and promotes growth by increasing the supply or availability of primary nutrients to the host plant. Since a bio-fertilizer is technically living, it can symbiotically associate with plant roots and improve soil fertility, increasing crop yield by 20-30%. Bio-fertilizers are cost-effective relative to chemical fertilizers. They have lower manufacturing costs, especially regarding nitrogen and phosphorus use. Liquid bio-fertilizers are even more effective as they are manufactured and packed under sterile conditions and therefore free from contamination. They also have a longer shelf life - as much as ten months.

Puruius Nanosystems is focused on the design and development of market patented diagnostics to increase the affordability and accessibility of diagnostics in India. Accurate diagnosis of disease conditions is key to proper and timely medical treatments but antibody based diagnostic products which account for a large part of the fast growing diagnostics market in India, is complex in usage and not affordable by the masses, becoming inaccessible to the vast majority of the population. Therefore timely diagnosis followed by relevant treatment remains elusive to those from the weaker economic strata. The company seeks to serve a large general population who have poor awareness about healthcare with affordable diagnostic solutions and increased accessibility to healthcare options.



“ The CFI typically supports large student team projects in various fields such as robotics, control systems, aero-modeling, and computer vision. ”



The Centre for Innovation, set up in 2008 with funds donated by the batch of 1981, has come to be ‘the’ hub for creative and intellectual activity among the students at IITM. The Centre, CFI in short, is now a hangout for some of the most creative talents on campus where thoughts and ideas come to life in an environment that promotes informal learning and fosters innovation in technology for application in society and the environment.

The CFI typically supports large student team projects in various fields such as robotics, control systems, aero-modeling, and computer vision. The students at CFI are primarily involved in projects, club activities, and competitions. CFI-supported activities have gained attention in the international and national arena, through the path-breaking projects and products, it has helped gestate. Some recent examples of the accomplishments of CFI and its students include:

- The 30-member Rafter Formula Racing’s single-seater open-wheeled car, RFR-13, which is ready to battle it out at the Formula Student Championship at the Hockenheim Formula 1 circuit in Germany
- The autonomous underwater vehicle, AMOGH, which won the National Student Autonomous Underwater Vehicle Competition 2014, held in San Diego.

In an endeavour to further its objective of nurturing talent and fertilizing ideas, the CFI kicked off the “Young Innovator Program (YIP)” aimed at spotting potential talent among the first year UG students of IIT Madras.

CFI’s continued functioning as a driver of innovation, invention, and practical exploration, is necessary to help draw IITM closer to achieving its goal of global eminence in research and innovation.



The Centre for Innovation (CFI) is an alumni-funded initiative on campus. With its motto being “Walk in with an idea and walk out with a product,” the Centre hopes to inculcate and encourage creativity and innovation in engineering. The Centre already boasts of some impressive equipment, including a 3D printer. Among its more recent acquisitions is the CNC subtractive prototyping machine— the result of the fundraising effort of the 1998 batch. The machine was purchased from SVP Laser Technologies Pvt. Ltd., a design and manufacturing company founded by alumni member, S. Viswesh [1998/BT/ME]. The students at CFI are excited with this addition as it will help them tremendously in their projects.

“ The machine was purchased from SVP Laser Technologies Pvt. Ltd., a design and manufacturing company founded by alumni member, S. Viswesh [1998/BT/ME] ”





In its quest to be recognized amongst the top 30 technology institutions in the world, it is essential that IITM is fitted out with world class research facilities comprising laboratories and equipment. Chair Professorships for Visiting & IITM faculty and funding for exceptional scholars beyond the Government mandated time-limit will facilitate vital research and support IITM's aspirations.

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research

A passion for Science and Engineering nurtured in the student's minds by IITM, resulted in the Student Satellite Project. A student-initiated, interdisciplinary project, it involves building a small satellite in technical collaboration with the Indian Space Research Organisation (ISRO), and will be launched on one of ISRO's vehicles. With a mission life of one year, the satellite, whose mission is to test an earthquake prediction model, will be placed in orbit at a height of around 800 kms to collect and transmit data about electrons and protons in the planet's magnetosphere.

The project began in late 2009 with a interdisciplinary team comprising both students and faculty. The student team is mixed - with members from the first to the final years of undergraduate and postgraduate degrees. The faculty team consists of a panel of coordinators who mentor the students at each step.

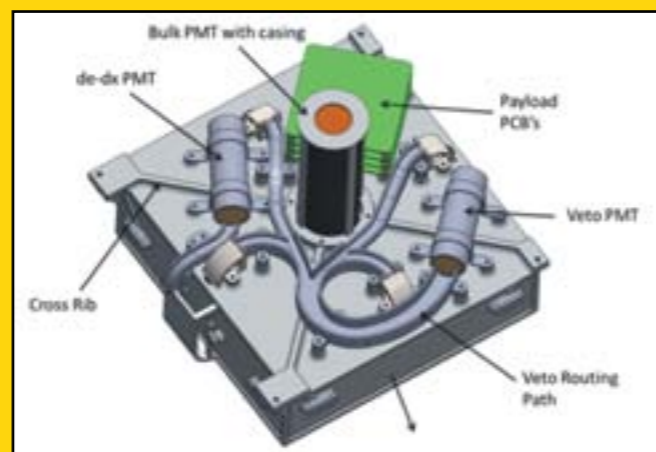
The project timeline has been divided into six phases and the third phase which involves the development of the payload and other subsystems is currently in progress. The team hopes to conclude the project by the end of 2014.

This is an update on the progress that the team has made: -

- Seven prototypes for various subsystems have been developed and tested
- Four conference papers and posters have been selected for presentations in the USA and Japan
- Components and instruments to the tune of Rs. 27 lakhs have been purchased

- Four technical reviews have been completed at ISAC (Bangalore), IIST (Thiruvananthapuram) and IIT (Madras)
- Ten undergraduate and postgraduate projects on the satellite project have been completed during 2012-13
- Construction of the IIT Madras Space Centre has commenced

With an estimated cost of Rs. 3 crores, the team is very grateful for the generous financial support from the batch of 1985 and the Office of International and Alumni Relations. We would also like to thank our donors V. Shankar [1981/BT/ME], D. Chandrasekhar [1970/BT/MT], Sriram Jayasimha [1979/BT/EE] and Srikanth Jadcherla [1992/BT/EE]. With the money received mostly utilized, the team hopes to receive further funding to continue with their project.



IIT Madras has added yet another feather to its many-plumed cap with its newly constructed glass fibre reinforced gypsum (GFRG) demonstration building. This low-cost, environment-friendly edifice, designed by the research team from the civil engineering department was constructed in just one month from prefabricated panels made from gypsum waste. The brainchild of Dr. Devdas Menon and Dr. Meher Prasad, it was inaugurated on the 7th of June.

The gypsum panels were originally designed for use by Rapid Building Systems, Australia, to build walls. In this case, the panels have been used to also construct the floors, roofs and stairways, reducing the need for reinforced cement concrete (RCC). The team also developed waterproofing material essential for ensuring the longevity of the gypsum panels, especially those used in the roofs and toilets, indigenously.

The 2-storied GFRG demonstration building, complete with electrical and sanitary fittings, is all but ready to occupy. Constructed to be a 4 unit budget housing model, the construction and maintenance costs have been considerably lowered by a shorter period of construction, reduced use of concrete, absence of plastering, and reduced overall cost of materials.

Each of the panels has two skins of 15 mm thickness that are connected at regular intervals of around 25 cm. The cavities so formed serve different purposes—for laying the plumbing and electrical conduits and

for filling with concrete where required.

This latest undertaking by IITM has received widespread attention for its suitability as low-income and medium-income housing, because of its cost advantage (the demonstration building was about 25% cheaper than its commercial counterpart) which can accrue considerable savings in mass construction. It has also been shown to be lighter and capable of withstanding substantial lateral loads in the event of earthquakes. The water-proofing of the roofs and toilets is a definite added advantage.

The GFRG model has been approved for construction (of low-cost houses) in India by the Building Material and Technology Promotion Council (BMTPC)—a notable achievement for IIT Madras.



RESEARCH  
SCHOLAR'S DAYTRANSFORMATIONAL  
RESEARCH

While addressing the gathering at large on the expectations and challenges associated with each of their fields, they advised the students to focus on their interests and look within those areas for the most remunerative jobs.

In an institute where research features as one of its topmost priorities, a day dedicated to Research Scholars at IITM wasn't entirely unforeseeable. The first edition of the Research Scholar's Day was co-sponsored by Boeing with the generous help of alumnus, Bala Bharadwaj [1974/BT/AE]. Following the invocation, the Director and Dean of I&AR took the stage to welcome the audience. Prof. Nagarajan then opened the session with the release of the yearbook and ReMag, the annual research book (listing and outlining the research projects completed and undertaken by graduating students).

The audience was in for a treat as the chief guest, Professor Indranil Manna, Director, IIT Kanpur, and guest of honour, Dr. R. Prasad, proceeded to deliver their lectures, both of which proved to be delightfully edifying. The lunch hour signalled the beginning of the poster presentations, providing much fodder for the mind... and body. This was followed by a panel discussion on "Career Goals, Plans and Advancement" with panellists from various fields in the public and private sectors as well as academia, expatiating and airing their views on the topic. While addressing the gathering at large on the expectations and challenges associated with each of their fields, they advised the students to focus on their interests and look within those areas for the most remunerative jobs. The discussion ended with an interactive session between the students and panellists.

The day ended with a special programme titled "IIT Yesteryears and Today" where alumni members shared fond memories of their years at the Institute with the present generation of students.



Research at IIT may be classified into 3 categories:

- Fundamental research, which results in highly-cited papers in high-impact journals
- Translational research, typically industry-sponsored, which results in commercial products, improved processes, and patents
- Transformational research, which influences the lives of many. Typically undertaken in a socially-relevant context, this mode of research involves faculty and students carrying out ground-breaking work with high scale and social impact.

While many faculty specialize in one mode of research, some dabble in all. A few examples follow...

#### Green Chemistry: Biocatalysed preparation of organic intermediates

Anju Chadha

Laboratory of Bioorganic Chemistry

Department of Biotechnology

IITM, Chennai 600036

Biocatalysis is one of the 'greenest' technologies for the preparation of chiral molecules which are important intermediates in the synthesis of bioactive molecules. This is due to the regio-, chemo- and stereoselectivity which they display in water based reactions under mild conditions. To truly empower these green chemistry features of biocatalysis, it is essential to integrate enzymatic transformations strategically into chemical processes.

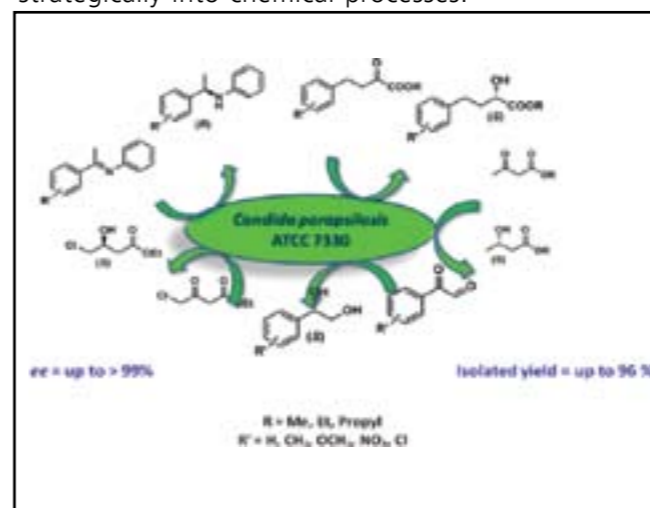


Figure 1: Asymmetric Reduction

(a) B. Baskar, N. G. Pandian, K. Priya and A. Chadha, *Tetrahedron: Asymmetry*, 2004, 15, 3961-3966; (b) V. Thangavel and A. Chadha, *Tetrahedron* 2007, 63, 4126-4133; (c) Kaliaperumal et al., *J. Ind. Microbial Biotechnol.* 2010, 37, 159-165 (e) P. Mahajabeen and A. Chadha, *Tetrahedron: Asymmetry*, 22, 2156-2160 (f) S. Venkataraman, R. Roy and A. Chadha, *Appl Biochem Biotechnol.* 2013, 171, 756-770.

We have been working on the development of such biocatalysed processes for over two decades. Our approach has been the use of a whole cell biocatalyst, *Candida parapsilosis* ATCC 7330 for the preparation of optically pure secondary alcohols by a variety of reactions. These reactions are not fermentation based but require 'resting cells' and when resuspended in aqueous media are like a reagent or a 'heterogenous' catalyst which can be filtered off. The reaction occurs at neutral pH, room temperature and requires mild stirring.

The following two figures are self explanatory and depict the chiral synthons which can be prepared using the biocatalytic methods developed by us:

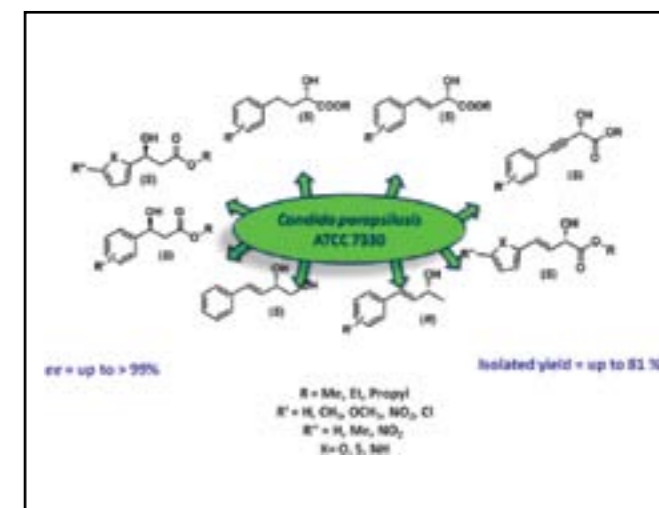


Figure 2: Deracemisation

a) Chadha, B. Baskar, *Tetrahedron: Asymmetry* 2002, 13, 1461-1464; B. Baskar, N.G. Pandian, K. Priya, A. Chadha, *Tetrahedron* 2005, 61, 12296-12306; (b) S.K. Padhi, N.G. Pandian, A. Chadha, *Tetrahedron: Asymmetry*, 2005, 16, 2790 - 2798; (c) S.K. Padhi, N.G. Pandian, A. Chadha, *J. Mol. Catal. B: Enzym.* 2004, 29, 25-29; (d) V. Thangavel, A. Chadha, *Tetrahedron: Asymmetry* 2007, 18, 1077-1084; (e) Titu, D.; Chadha, A. *Tetrahedron Asymmetry* 2008, 19, 1698-1701; (f) T. Saravanan and A. Chadha, *Tetrahedron: Asymmetry*, 21, 2973-2980



**Dr. Sachin S Gunthe**  
Assistant Professor and Head, Max Planck  
Partner Group at IITM  
Department of Civil Engineering  
IIT Madras

Sachin S Gunthe is an assistant professor in the Environmental and Water Resources Engineering Division of the Department of Civil Engineering. He also heads the first Max Planck Partner Group established at IIT Madras on fundamental research on climatic and health impact of biological aerosols. After obtaining his doctorate from he has worked as post-doctoral researcher at Max Planck Institute for Chemistry in Mainz, Germany.

A brief description of research activities he has carried out in last few years are described below

**1. Max Planck Partner Group at IIT Madras on Bioaerosol Research:** Sachin S Gunthe is currently heading the Max Planck Partner Group at IIT Madras. This partner group, which is jointly funded by Max Planck Society in Germany and Department of Science and Technology in India, focuses on fundamental research related to characteristics of biological aerosol particles under different environmental conditions over the Indian tropical region. The major focus is on assessment for climatic and human health impact. Another major focus is on student exchange to provide an opportunity to the

student of this institution to get exposed to world class facilities.

**2. Aerosol-cloud-precipitation and biosphere interaction:** Sachin S Gunthe and his research group is actively involved in fundamental research investigating the physical, chemical, and morphological characteristics of atmospheric aerosols including biological aerosols. The anthropogenic increase in atmospheric aerosol number concentration over the Indian region is expected to alter the cloud properties and consequently the Indian summer monsoon pattern. Long-term measurements have been initiated to study the number size distribution properties of atmospheric aerosol in south Indian region with sophisticated and state-of-the-art instruments. This project is being funded by Department of Science and Technology.

**3. Cloud condensation nuclei measurements:** Atmospheric aerosol particles serving as cloud condensation nuclei (CCN) play an important role in the formation of clouds and precipitation, and influence atmospheric chemistry and physics, the hydrological cycle and climate. One of the crucial challenges is to determine the ability of aerosol particles to act as CCN under relevant atmospheric conditions, an issue that has received increasing attention over the past years. A project is being funded by Ministry of Earth Sciences to perform the novel and unique CCN measurements over the Indian continental and marine region.

**4. Global climate modelling:** His group at IIT Madras is using the Weather Research and Forecasting model with Chemistry module (WRF-Chem) to investigate and test the different hypothesis of increasing anthropogenic pollution on climate. A special emphasis is laid on investigating the role of meteorology and land use change on different pollutant over contrasting environment over Indian region.

**5. Effect of climate change on water resource management:** In collaboration with other faculty colleagues in the division his group is using the Weather Research and Forecasting model with Hydrological module (WRF-Hydro) to investigate the effect of extreme precipitation events on water resource management.



**Dr. Ligy Philip**  
Professor  
Department of Civil Engineering  
IIT Madras

Dr. Ligy Philip is a professor in the Environmental and Water Resources Engineering division of the Department of Civil Engineering. She is also Area Coordinator for the Waste Management in the Indo-German Center for Sustainability (IGCS) at IIT Madras. She has been working in the area of Environmental Engineering since 1994. A brief description of research and developmental activities she has carried out in the last two decades, with immediate relevance to society, is given below.

**1. Center of Excellence for Decentralized Wastewater Management (DWWM):** Prof. Ligy Philip is heading the Center of Excellence in DWWM, funded by the Ministry of Urban Development, GoI. Her team has developed guidelines for DWWM implementation in India. They are presently working on the evaluation of different wastewater treatment technologies in use in India, and will come up with a design manual for these technologies.

**2. On-site Wastewater Management:** Prof. Ligy Philip is working on evaluation of existing technologies and development of new technologies for on-site treatment of wastewater i.e. treatment of wastewater generated within the household or within a small community and the subsequent reuse options. This will also lead to sustainable use of water. This is funded by the Department of Science and Technology (DST).

**3. Septage Management:** In many cities of India, septic tanks are most common for treatment / disposal of domestic waste water from individual houses and small communities. Septage i.e., partially treated waste from these septic tanks, is removed once in a while from these tanks. Prof. Ligy Philip is working on an IGCS-DST funded project to develop appropriate treatment technologies and disposal strategies for this septage. This is very important for safeguarding our environment and public health.

**4. Constructed Wet Lands / Decentralized Wastewater Management:** Part of an international consortium of universities and organizations from India and European Union, which is evaluating different technologies suitable for decentralized wastewater management, for Indian conditions. She is also developing novel, inexpensive, but effective designs for constructed wet lands. The developed technologies will be demonstrated through pilot projects in IIT Campus and other locations.

**5. Safe Drinking Water in Rural Areas—Water Quality Test Kit:** Providing safe drinking water to rural population is a challenging task facing our nation. In many rural areas, people are not aware of the quality aspects of the water they use for drinking and other purposes. In many instances, the quality assessment of water is based on perceptions about color, odor and taste. Prof. Ligy Philip and her team has developed an easy to use and inexpensive kit for testing water quality and training NGOs working in rural areas in its use. They developed two test kits, one for 14 parameters and another for 24 parameters. These test kits have been field tested extensively. Several training programs have been conducted in Krishnagiri district under the sponsorship of UNICEF and it plans to use these test kits for training and provide them to NGOs for continuous use in Tamil Nadu and elsewhere in India. Development of this test kit was funded by 1967 Batch Alumni of IIT Madras.

**6. Training to Village and Block Level Officers into aspects of Sanitation and Water Supply:** Prof. Ligy Philip has conducted several training programs for village level and block level officers in the Krishnagiri district of Tamilnadu into various aspects of sanitation, water quality monitoring and treatment, and protection of water resources in rural areas. These programs are funded by the UNICEF, India. She has trained many personnel in multiple blocks in the last six years. It has been found that these training programs have improved the public health conditions in the villages significantly. Based on the success of these training programs, she was invited by the United Nations Environment Program (UNEP) and UNICEF,

Democratic Republic of Congo to help design and conduct such programs in DR Congo.

#### 7. Effective but Inexpensive Point of Use Water Filters for use in Underprivileged areas in Cities:

Prof. Ligy Philip and her team have developed an alternative technology for point of use treatment of water for drinking. They have developed low cost filters, made of locally available material for treating water from a locally available source, for domestic (drinking and cooking) use in a slum area. A unique aspect is that the views and needs of stake holders were integral to the design and development of these filters. Field testing of filters has been carried out in Mailai Balajinagar, a slum in Chennai, and the filters have been accepted by the slum dwellers and have been in use there. This project was funded by International

Developmental Research Council (IDRC), Canada and Guelph University in Canada is the research partner.

**8. Nanotechnology for water and wastewater treatment:** Prof. Ligy Philip is a leading member of the Thematic Unit on Nanotechnology Applications for Water at IIT Madras, funded by the DST. The team is developing innovative technologies for water and wastewater treatment, based on photo-catalysis / solar radiation, and use of nano-materials.

**9. Bioremediation of Contaminated soil and water:** Her Group is extensively working on bioremediation of contaminated soil and water. The technology developed by them has already been transferred to industries for remediating the contaminated sites.



**Dr.K. Srinivas Reddy**  
Professor  
Department of Mechanical Engineering  
IIT Madras, Chennai

Dr. K.S. Reddy is a professor in the Department of Mechanical Engineering. He has been working in the area of Energy Engineering since 1995. His research interests include: Renewable energies, solar energy, energy and environment, heat transfer, two-phase materials. A brief description of research, development and demonstration (RD&D) activities he has carried out in the last two decades, with immediate relevance to society for sustainable energy supply, is listed here.

1. **Concentrating Solar Power (CSP) System**
  - Design and development of fuzzy focal receivers for solar parabolic dish collector system for process heat and power generation
  - Development of porous enhanced energy efficient receiver for solar parabolic trough collector for performance improvement and direct steam generation. Design and Development of integrated Torque Tube-Box support structure for Solar parabolic trough collector. An atlas for Concentrating Solar Power generation in India has been proposed for viable installation of large-scale renewable systems.
2. **Concentrating Photovoltaic (CPV)**
  - Integration and Optimization of High Performance Solar Concentrating Photovoltaic Systems for Cogeneration and Tri-generation for rural energy needs. An integrated Biomass-CPV system for a tribal village near to Santiniketan, West Bengal.
3. **Solar Energy Storage**
  - Design of Transparent Insulation Materials (TIM) based Solar Integrated-Collector-Storage (ICS) Systems for Energy Efficiency
  - Development of medium and high temperature solar energy storage system for buffer & extended storage
4. **Solar systems for desalination & natural evaporation of industrial effluents**
  - Design and Development of Integrated Multi-tray Solar Desalination System
  - Design and Development of solar energy based natural evaporator for textile industrial effluent treatment.
5. **Solar Resources Estimation using Artificial Neural Networks (ANN)**





# SUSTAINABILITY AND SOCIAL IMPACT

IITM has always believed in being a responsible citizen and a socially conscious institution. Its campus infrastructure supports energy efficiency, groundwater discharge, waste management, and protective measures for its flora & fauna. The Institute aspires to further the cause of Sustainability through solar panels, low energy lighting options, the pursuit of Green” initiatives in IT & infrastructure, and research & outreach initiatives in renewable energy. Its innovation initiatives and entrepreneurial quests focus on creating a deep social impact in the larger community.

green initiatives

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centre for social  
innovation &  
entrepreneurship

m.s. ananth  
endowment fund

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socially relevant  
projects

## GREEN INITIATIVES

IIT Madras has not been one to subordinate environmental concerns to progress, infrastructural and otherwise. With eco-friendly development an important part of their way forward, it is no surprise that the Institute has integrated Green Initiatives in almost every project it undertakes.

These are two initiatives aimed at curbing carbon footprint:

### Solar water heaters in all hostels

It was decided that every hostel shall have a solar water heater installed. The projected cost of the undertaking, including the solar water units-fifty seven 500 Ltr/day units and fifteen 1000 Lts/

day units-was Rs. 88 lakhs. The project has been successfully completed and the investment was partially covered by funding from the 1973 and 1981 batches, each of whom contributed Rs. 26 lakhs and Rs. 25 lakhs respectively.

### LED lights in the hostels

A decision was made to replace tube lights in all the hostels with energy-efficient LED lights. A trial run was conducted in the Ganga and Brahmaputra hostels, where over 800 LED lights were installed. After an evaluation of performance through student feedback, more lights will be installed in other hostels. The total cost of this project is expected to be about Rs. 43 lakhs.



## CENTRE FOR SOCIAL INNOVATION AND ENTREPRENEURSHIP

CSIE was founded in 2009 with the objectives of creating and disseminating social enterprise knowledge to students and to enable and empower them to formulate and implement solutions that create social impact. The centre seeks to elicit greater student interest and engagement through its education and support programs, and to promote social entrepreneurship. It hopes to evolve from its current capacity as a coordinating body to a full-fledged education, training, and research centre and incubation cell for social entrepreneurship. Set up in collaboration with Villgro Innovation Foundation, the CSIE came up with a 4-pronged strategy of Education, Research, Innovation Catalysis, and Collaboration to achieve their goals. Since its inception, CSIE has made significant strides in all 4 strategic fronts:

**Education:** THE CSIE offers minor courses in Innovation and Social Entrepreneurship, a course on 'Technology, Innovation and Invention' for 1st year ED students and has hosted an AVPN workshop on Social Performance Measurement. So far, 150 students have taken the minor course since 2009.

**Research:** Several research papers have been published and documentation has been rigorously pursued. Some of the projects embarked on in 2012-2013 are:

- Sustainable Agriculture and Institutions of Higher Learning"—supported by XIMB and IDRC Canada.
- Evaluation of Social Entrepreneurship Programs in India—supported by Villgro and IDRC Canada

- Study of Rural Technology Incubator, IITM supported by Villgro and IDRC Canada

**Catalyzing innovation:** CSIE has encouraged young innovators and budding entrepreneurs in the development of socially-beneficial products and ideas by facilitating internships, out-of-class activities, student start-ups and projects, and by offering email mentoring from experts in the field. Several activities are conducted through the year and the students are encouraged to participate in competitions. The IITM Entrepreneurship Week 2013, the Product Design and Business model workshop at Shastra and the 3D 4D workshop are just some of the events. The students have emerged winners in several paper presentation and business plan competitions.

**Collaboration:** In its bid to create an ecosystem that encompasses other educational and research institutions, CSIE has forged links with institutions such as Tata Institute of Social Science; Centre for Innovation Incubation and Entrepreneurship, IIM Ahmedabad; Centre for Innovation in Public Systems, Hyderabad; the UN Global Compact; and Ateneo School of Government, Philippines.

A telling success of CSIE's fledgling initiatives is the fact that 15 students, nurtured by CSIE have ventured into the entrepreneurial stream. Although well-funded, CSIE's plans for the nucleation of a social entrepreneurship ecosystem and the introduction of a dual degree (B. Tech and MS Entrepreneurship) and an MBA in Social Entrepreneurship, will necessitate the sustained efforts of IITM and I&AR and committed support from alumni.



**IIT Madras - CSIE**  
(Center for Social Innovation & Entrepreneurship)

## MS ANANTH ENDOWMENT FUND

Professor M.S. Ananth has the distinction of not only being the first Director of the Institute but also the man who moulded IIT Madras into what it is today. He was a forward thinker who campaigned for increased alumni engagement at a time when the concept was foreign to most Indian universities. As a tribute to the legacy he has left behind, the M.S. Ananth Endowment Fund was launched in December 2010, as a part of the Golden Jubilee Alumni Fund. The endowment, created with funding from many alumni members, is overseen by the Dean of International and Alumni Relations, the Faculty Coordinator of Socially Relevant Projects (SRPs), and the Secretary of IIT Madras Alumni Charitable Trust.

Till date, Rs.2.20 Crores have been raised from 2 sets of endowments, and the interest accrued from the investment has been disbursed for socially relevant projects and humanitarian causes.

The first endowment of Rs.1.30 Crores earned Rs.7.27 lakhs in interest as on 31st March 2012. This was allocated for use in socially relevant projects involving IIT Madras faculty and students. A second endowment of Rs.90 lakhs, and the accrued interest of Rs.1.36 lakhs has been disbursed towards educational expenses for the children of Self-Help-Group(SHG) staff members working on the campus.

In 2013, an amount of Rs. 9.59 lakhs was disbursed towards the following SRPs:

- Development of a partial exoskeleton to enable enhanced mobility for persons with limited capability in one lower limb and normal capability in the other
- Improvement of supply chain efficiency for food security
- Development of the HuMotor programme which seeks to identify humane ways to utilize human efforts at a workplace
- Development of the PP - GIS based decision support system for farmers

The interest of Rs. 6.50 lakhs accrued from the endowment at IITMACT in 2013 was disbursed towards the education of 70- 80 SHG children, during a small ceremony that was presided over by the Director, Dr. Bhaskar Ramamurthi, whereupon the parents expressed their gratitude towards IITMAANA and the Class of 1983 alumni for their support.

This project was actuated by the combined efforts of Dr. Sujatha Srinivasan, Department of Mechanical Engineering, D.Chandrasekhar, Secretary IIT Madras Alumni Charitable Trust, and the Office of I & AR, Manager.



## SOCIALLY RELEVANT PROJECTS

IITM has a proud tradition of giving back to the community, ably leveraging its strength in technology and innovation. In 2003, the Director of IITM sanctioned Rs. 10 lakhs to fund projects with immediate social relevance-now referred to as socially relevant projects. However, one of the prerequisites for the funding was that the underlying idea must come from an NGO, a governmental agency or concerned citizens. Faculty would lead the projects and solicit help as appropriate from other staff members and students. A time limit of one year was imposed for project execution.

The batches of 1967 and 1981 are the main sponsors for these projects. Additionally, the interest earned from the M.S. Ananth Endowment Fund is also used for the implementation.

The major projects of 2013 are as follows:

### Improving Supply Chain Efficiency for Food Security

**Budget: Rs. 2,50,000**

**Partner/NGO: M.S. Swaminathan Research Foundation**

The ineffective management of the food supply chain in India has regularly led to the wastage of food, increase in prices, and the decrease in both quality and quantity, thereby compounding the problem of malnutrition amongst the disadvantaged sections in the community. The study aims to analyse this issue by focusing on two produce supply chains (rice and a perishable item-a vegetable) and proposes to evolve methods to enhance food security.

### Development of a Standing Wheelchair

**Budget: Rs. 3,00,000**

**Partner/NGO: Molecular Diagnostics, Counselling, Care and Research Centre (MDCRC)**

When confined to a wheelchair, people with slight lower limb impairments are often beset by other conditions that arise from poor circulation. These conditions may further incapacitate such persons, impairing their ability to stand at all. This project aims to develop a design that is cost effective and allows the user to stand with support for brief periods of time.



Standing Wheelchair

**HuMotor: A Humane Way to Utilise Human Efforts at a Workplace**

Budget: Rs. 3,00,000

Partner/NGO: Forum for Women's Rights and Development (FORWORD)

In labour-intensive jobs like construction work, the risk of injury due to work-related stress and monotony is very high. The lack of basic assistive tools also leads to poor productivity. This study proposes to design a mechanical device to carry out such activities in a safe manner.

**Development of an Exoskeleton to Enable Enhanced Mobility for a Differently-Abled Person**

Budget: Rs. 3,00,000

Partner/NGO: MDCRC

People with injuries or an affliction such as polio, have compromised functioning of the limb. The project undertakes to design a partial exoskeleton for such people to aid their movement, reduce dependence, and improve their quality of life.

**Design and Development of Inter-Crop Cultivator**

Budget: Rs. 3,00,000

Partner/NGO: Pothu Vivasayeegal Sangam

Rural farms are currently facing a critical shortage of labour resulting in problems with planting, inter-crop harvesting, and post-harvest operations. With most of the farms being too small for imported equipment, there is a pressing need for indigenous but cost-effective machines (the inter-cultivator) to offset deficiencies in manpower. The study proposes to address this gap through the design of cost-effective equipment.

**Non-invasive Blood Glucose Level Measurement Using Fluorescent Spectroscopy**

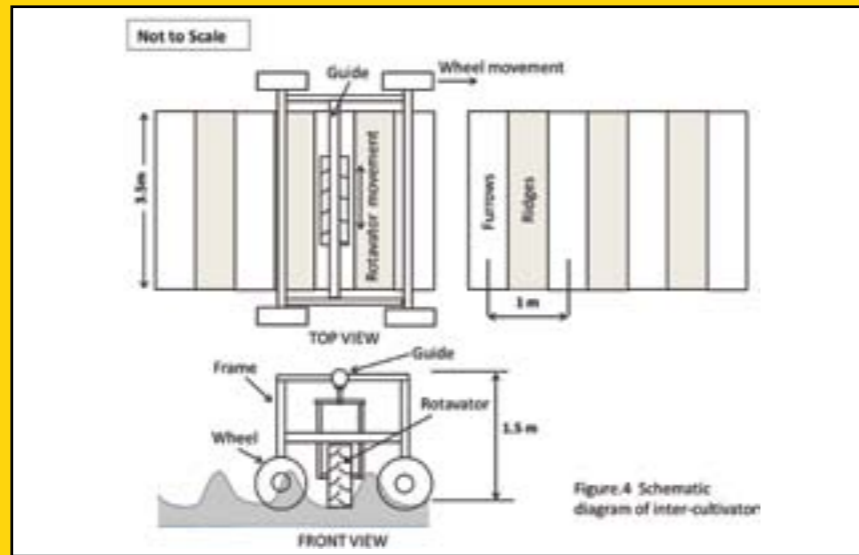
Budget: Rs. 3,00,000

Partner/NGO: SMF Chennai

While current clinical practices utilise invasive methods to check blood glucose levels, this study hopes to alleviate patient discomfort by proposing a non-invasive one. The study proposes an alternate means of monitoring that involves indirect measurement of NADH levels, a by-product of a process involving glucose. A naturally existing tissue fluorophore, NADH can be measured by fluorescence spectroscopy.



HuMotor



Inter-Crop Cultivator



# INTERNATIONALISATION



Internationalizing IITM involves significant overseas travel, firstly for the pursuit of research collaborations and secondly for 'semester abroad' programs and internships for research scholars who want to spend time abroad doing research. Vice versa, scholarships are needed to enable full-time PG students from abroad to enroll at IITM.

networking with  
universities overseas

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MOUs and delegates

# NETWORKING WITH UNIVERSITIES OVERSEAS

# MOUS AND DELEGATES

Professor Nagarajan, Dean of the Office of International and Alumni relations visited the USA from the 29th of April to the 3rd of June, during which time he visited 17 campuses and met over 100 faculty members, Deans, Vice Presidents, Provosts and a President, to increase collaborations for research, faculty interactions, Ph.D. scholar exchanges, and UG research internships which serve as a recruitment tool for graduate school. His itinerary also included five chapter meetings in New York, Washington DC, Chicago, Pittsburgh and New Jersey.

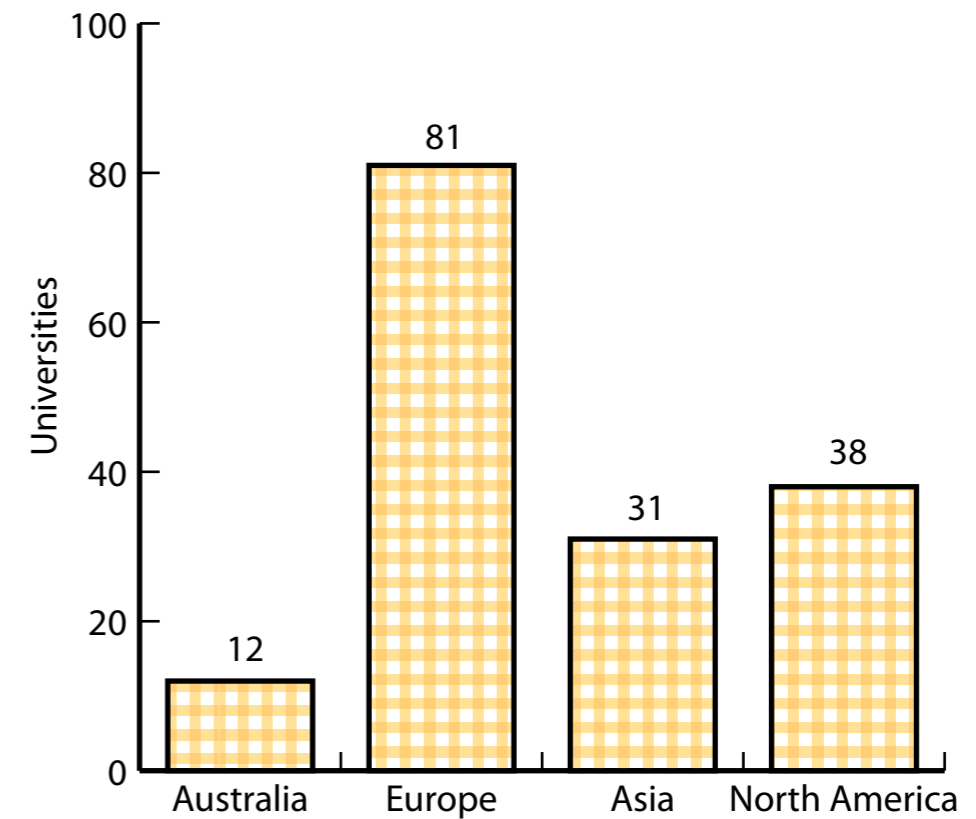
The IITM alumni faculty showed great interest on these topics but were apprehensive about the lack of funding for such student and faculty mobility. A suggestion was given for identifying host families amongst faculty, as a possible solution. School-wise reunions of PG alumni were successfully hosted at all venues.

Later in the year, Professor Nagarajan together with the Director, Professor Bhaskar Ramamurthi, visited 11 universities in Australia from the 23rd to the 27th of September, in four cities—Melbourne, Sydney, Adelaide and Perth—to discuss exchange programmes for Ph.D. students, research collaborations and other joint ventures.

The meetings in the US and Australia focussed on alumni relations and fundraising. The visits proved useful and helped evangelise IITM's mission for sustainable growth and stewardship in education, research, and entrepreneurship.

The Academic Senate of IITM also approved 3 joint-doctorate programmes. In addition to the existing programme with NUS, Singapore, IIT Madras now has programmes with University of Passau, Germany; NTHU, Taiwan; and Swinburne University, Melbourne. Numerous joint-supervision opportunities have also been identified for Ph.D. scholars.

“The duo visited 11 universities to discuss the possibility of exchange programmes for Ph.D. students, research collaborations and other joint ventures.”



# NETWORKING AND OUTREACH



As a primary interface between the Institute and alumni at large, the OAA drives alumni relations, maintains and grows the alumni database, administers scholarships and awards and coordinates fund deployment activities. It serves to promote interactions between visiting faculty and local alumni, promote research and consultancy activities, campus visits and networking activities such as reunions.

institute events

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alumni events

improved  
communications

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recognition

lecture series

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## INSTITUTE DAY AND DA FORUM



Held on the 9th of April, the 54th Institute Day was a grand celebration with chief guest, M. Damodaran, IAS. The Distinguished Alumnus Awards were presented to the alumni present, and the Institute Day awards were distributed to meritorious students—both on the same day. Almost half of the latter awards were sponsored by alumni of IITM. The “Excellence in Teaching” award, instituted in 2012 by Distinguished Alumnus, Prof. Marti Subrahmanyam, was awarded to Prof. C. Balaji this year. The following day, April 10th, was celebrated as Distinguished Alumnus Day (DA Day), in recognition of the milestone 100th Distinguished Alumnus award being conferred this year. Several Distinguished Awardees graced the occasion on Campus. The day-long event which marked the first ever DA Day, consisted of a combination of lectures and formal and informal interactive sessions in which many alumni participated.



## CONVOCAATION AND ALUMNIDAY

## SAARANG & SHAASTRA

Every year, new graduates find themselves inducted into the distinguished ranks of their former seniors, on this day. The Alumni Day serves as a special day to ceremonially welcome fresh IITM graduates into the fold of the IITM Alumni. This year, Professor Subra Suresh [1977/BT/ME], DA and President of Carnegie Mellon University, who had delivered a special lecture, "New Era of Innovation in Global Science and Engineering", to a packed audience on the 18th of July, was the obvious choice for Guest of Honour at the special edition of Alumni Day following the 50th convocation, as Special Guest. Our esteemed chief guest made the most of his visit, keeping his 4 days packed with lectures and interactions, including one with the faculty on the 19th during which he proposed increased engagement and collaboration with CMU.

Professor Nagarajan (Dean, I & AR) set the session rolling with a welcome address that touched upon relation-building and fundraising. He was followed by Mohan Narayanan (Treasurer, IITMAA) who went on to outline a few MAA initiatives. The '87 batch, which celebrated its silver jubilee last year, took the helm thereupon, announcing their fund-raising total and their decision to contribute to the "Alumni Endowment Fund".

The recent rapid-construction low-cost-housing project, an example of outstanding faculty leadership and guidance towards social enterprise, was on the project showcase. Prof. Devdas Menon [1980/BT/CE], [1994/Ph.D/CE] took the audience through the paces of the project from conception to completion through a video presentation. IITM faculty play a key



role in shaping society. Another alum and key-player in the evolving entrepreneurial ecosystem at IITM, Prof. Ashwin led the audience through a journey of IITM's endeavours towards building an atmosphere supportive of and conducive to entrepreneurship. Next on stage was Gautham (batch of 1978) the force behind Alumni GEMs, who explained to the gathering how GEMs worked. He expressed his desire for continued and increased contribution towards GEMs and other areas of alumni engagement, urging the new alumni to engage themselves actively.

Institute Day awards that spilled over from Institute Day and Convocation were conferred on the students on this day. One of the 4 Distinguished Alumnus awardees, Professor Sriram also distributed awards to those hostels that boasted the highest pledge amount and the highest pledge participation. Dr. Sailesh Rao [1981/BT/EE], also received his award on Alumni Day.

A mobile app designed to improve alumni networking was launched. The brainchild of DoMS students, the app was conceived and constructed during an internship at the Office of International and Alumni Relations, sponsored by Kris Gopalakrishnan.

The addresses by the Chief Guest and the Director and the vote of thanks by the Student Secretary were followed by the inauguration of the air-conditioned classroom sponsored by the batch of '77. As always, family fun & games at CLT drew a large crowd and kept them entertained while the alumni basked in nostalgia.



Saarang is touted as one of the most anticipated cultural fests in the city. Held from the 9th to the 13th of January, this student-organized cultural fiesta, which features prominently on Chennai's event calendar, lives up to its reputation, drawing large crowds and enthusiastic participants every year. The organizing committee pulls out all stops to ensure a scintillating 5-day action-packed and event-filled cultural bonanza that brings out the finest collegiate talents across India. During the day, activities such as quizzes, music and dramatics competitions, workshops, stall games, and more jostle for space, while the big shows-dance competitions, Choreonight and Pro-shows for light and western music featuring popular performers from India and abroad, take place during the evenings. During Saarang 2013, IITM featured rock bands like Parikrama and Anathema and the light music trio Shankar-Ehsaan-Loy, who regaled a packed auditorium of fans and enthusiasts.

Apart from its obvious commercial lure, Saarang has also struck a sympathetic chord with charitable causes by finding ways to give back to the community and make a positive difference were needed. Eunoia is Saarang's newest initiative, which associates with organisations like the Smile Foundation, Make A Difference, Milaap, and Eureka Child for various activities.

As the bar continues to be raised each year for Saarang in terms of magnitude and scope, so does its commitment to social and community outreach. Saarang is truly an integral cog in the machinery that drives IITM towards achieving its objectives, by tapping into its potential for networking, idea-generation, innovation, and community interfacing. Saarang hopes to be a meaningful and effective growth catalyst and add to its gamut of offerings with every new edition.

I & AR is proud to sponsor some activities of both Saarang and Shaastra.



IITM's technical festival, Shaastra, was held from the 5th to the 8th of January. Going strong with its 14th edition, the event serves to showcase the spirit of engineering, and creates a platform where students can ideate and innovate. Centre-stage contests like Wright Design, Hackfest, and Robowars, keep wits on edge, and spur lateral thinking, real-time application, and qualitative reasoning. The buzz is palpable especially at events like the Air Show and Research Expo, where research and innovations from the departments in IIT Madras get prime time viewing and the showmanship thrills participants and audiences alike. A befitting grand finale consisted of the final rounds of 'Robowars' and Manual Robotics.

Shaastra 2013 was a truly futuristic experience, leaving one, as always, in fervent suspense of the next edition.



# FACULTY ASSOCIATION NITE

Held on the 31st of October, Faculty Association Nite provided a reason for the faculty and families to get together and unwind in an informal setting of fun and leisure. The guests partook in light-hearted banter and enjoyed a delectable feast. The event was sponsored by the Office of I & AR and went smoothly much to the satisfaction of all the attendees of this special event.



# MAANA SPONSORED RECEPTION FOR USA-BOUND STUDENTS

Twenty-five new graduates on the cusp of a new chapter in their lives were the centre of attention during a dinner reception held in their honour at Westin hotel, Velachery. Sponsored by the IIT Madras Alumni Association of North America (IITMAANA), the reception was an impeccable affair replete with lush decor, august attendees, and a delectable feast. One such attendee, a 2013 DA awardee, Dr. Sailesh Rao, addressed the students and narrated his experiences of living abroad and his insights. Professor Nagarajan (Dean, I & AR) emphasised the importance of joining the alumni network and expressed his hope that the students would choose to stay in touch with their alma mater.

IITMAANA will be receiving a copy of the contact details of these students and will arrange meet and greets with local alumni at their respective college/ university towns.



“ One such attendee, a 2013 DA awardee, Dr. Sailesh Rao, addressed the students and narrated his experiences of living abroad and his insights. ”



# ALUMNI EVENTS

## CHAPTER MEETINGS

## VLM ALUMNI MEETING

IITM goes all out to keep its alumni informed about the progress of their alma on various fronts and provides them varied opportunities to engage themselves in the activities on campus. Alumni Chapter meetings provide the perfect occasion for this networking. The Office of Alumni Affairs at IITM, in partnership with the Alumni Association, helps coordinate these chapter meetings in different parts of the country and abroad providing a synchronised platform for interaction between IITM and the alumni.

The New Year got off to a promising start with the Delhi Chapter Meeting. Over 60 alums and their families gathered at the Delhi Gymkhana to swap stories, reminisce about their college days, and catch up on each other's lives. The guests from Chennai were Prof. Bhaskar Ramamurthi (Director, IITM), Prof. R. Nagarajan (Dean of I&AR), Mr. K. Suresh (General Manager), Mr. V. Gopinathan [1969/BT/CH] (President, IITM Alumni Association) and Mr. D. Chandrasekhar DA [1970/BT/MT]).

The Mumbai chapter meeting was held in December 2013 and it was attended by 40 alumni comprising representatives from the 1960 batch to the latest batch. It was coordinated by Kaviraj Nair [1999/BT/CE] (Joint Secretary, IITMAA), Vijay Kambe [1976/BT/EE], Rakesh Roy [2005/BT/NA], Shashikant Damani [1987/BT/CH] and A.K. Agarwal [1970/BT/EE].

Both the meetings served to reaffirm IITM's dedication to achieving a premier status as a centre of excellence in education and research. In so doing, they also succeeded in garnering renewed support of the alumni towards achieving the goals in the proposed growth areas.



“The occasion was graced by His Excellency Masanori Nakano, Consul-General, Japan, Chennai, and other dignitaries such as Professor Shoji Shiba and Kayoko Furukawa, the Consul of Culture, Information and Development Affairs.”

The Post Graduate Programme for Executives for Visionary Leadership in Manufacturing (PGPEX – VLM) was launched in 2006 by IIT Madras. On the 27th of October, a reunion was held for the alumni of this course. The occasion was graced by His Excellency Masanori Nakano, Consul-General, Japan, Chennai, and other dignitaries such as Professor Shoji Shiba and Kayoko Furukawa, the Consul of Culture, Information and Development Affairs. During his address to the gathering, the Director of IITM, Dr. Bhaskar Ramamurthi took the opportunity to welcome Japanese industries to set up their research and development facilities at IITM's Research Park. He also took the opportunity to express his hopes for developing long-term working relations with Japan.



# PAN IIT HOUSTON

The 2013 PAN IIT conference with the theme "Inspiring Innovation for Tomorrow", was convened at Houston, Texas, over three days from the 6th to the 8th of December. Among the attendees, Director, Dr. Bhaskar Ramamurthi; Dean of International and Alumni Relations, Dr. Nagarajan; and I&AR Student Secretary, Jithin Sam Verghese represented IIT Madras. The audience was treated to a myriad of talks, based on the STEEL threads - sustainability, technology, education, energy and life sciences. Eminent speakers graced the stage, including some prominent ones such as Nobel Laureate, Amartya Sen; former President of Mexico, Vicente Fox; chairman of the BG Group, Andrew Gould; and flight director of Apollo 13, Gene Kranz.

The conference featured programmes, talks and panel discussions on social and environmental issues that the world faces today with the objective of

identifying relevant solutions for them. Interspersed were entertaining performances by singer, Usha Uthup; local rock band, FAB5; and comedian Dan Nainan. The day was made even more special with the meeting of old friends and making new ones.

There were two IIT Madras break-out sessions that provided the alumni an opportunity for networking. The faculty members and administrators from the Institute fielded questions from the alumni impressing them with the frankness of their exchanges. A round-table meet was held on the theme "Energy", engaging academia and industry in an interesting discussion.

Following this meet, Professors Bhaskar Ramamurthi and Nagarajan met alumni in New York City, Toronto and San Francisco. Their focus was on collaborations - industrial and academic, development activities and innovation and entrepreneurship initiatives.



# REUNION DAY

Held on the 27th of December 2013, Reunion Day was an interesting mix of nostalgia, games and technical talks. The batches of 1968, 1978 and 1988 had their gold, coral and silver reunions respectively on this day. While they reminisced with their classmates, their families were treated to a fun time at the CLT building with activities like balloon decorations, mehendi and caricature drawing.

The audience was keen to hear about the progress that their alma mater had made since they left the college, and they were not disappointed. Professor Ashok Jhunjhunwala spoke about the Institute's vision of homes powered by solar and DC power round-the-clock, while Professor Devdas Menon described the rapid construction, low-cost construction technology for housing structures that used glass fibre reinforced gypsum. Professor Mohanasankar elaborated on the novel healthcare technique being put to use through the Healthcare Technology Innovation Centre (HTIC) at the IITM Research Park.

Professor Ashok Mahalingam's presentation on the entrepreneurship and incubation ecosystem prevalent at IITM served as a good precedent for the talk on the IITM Student Satellite Project. Delivered by Professor Harishankar Ramachandran, this talk walked the audience through the conception and evolution of the project, an interdisciplinary effort, the aim of which was to launch a satellite with a payload that can predict earthquakes. The talks succeeded in highlighting the transitional, dynamic research that IITM was involved in and its potential global impact.

Professor David Koilpillai took the stage to discuss global rankings in view of the Institute's current position at the verge of the top 50 of the QS World University rankings. Suresh Kalpathi then

provided an update for the relocation plans of the IIT Alumni Club to the premier address of the IITM Research Park, which would be conducive to forging academia-industry relationships.

Alumni networking opportunities were discussed in great detail by Mr. Gopinathan, President of the IITM Alumni Association, as also the benefits of membership. Following this, the Dean of International and Alumni Relations, Professor Nagarajan, representing the OIAR, outlined the goals of the office for development of the Institute in terms of alumni relations and financial resources. He announced an upsurge in alumni relations owing to the numerous campus visits, lectures and events, and in so doing brought to attention the record number of new donors, whose contributions in 2013 amounted to approximately Rs. 12 crores. Professor Nagarajan also spoke about the hiring of full-time development staff in India and the launch of a Development Office in the USA. He reiterated that alumni contributions, both monetary and non-monetary, were the key ingredient in the strategic plan for 2020.

IITM Director, Professor Bhaskar Ramamurthi concluded the event with an exposition on IITM's growth. He emphasised the importance of the Institute's focus on research enrichment, saying that it would add a vital dimension to the edifice of quality education. Speaking about the role of diversity in achieving the mandates set for IITM, he added that the diverse student population, despite presenting its own unique challenges, would only serve to enhance the output of the Institute. At the end of his speech, the Director fielded questions from the audience.

The speeches gave way to the more informal leg of the meeting, where the alumni and their families simply basked in the memories and the hospitality of their Alma mater.



IMPROVED COMMUNICATIONS

FELICITATION OF VENKATESH MANNAR

IIT Madras has always made it its priority to reach out to its vast network of alumni members by leveraging the latest technology available. With this goal in mind, the Institute has gone on to revamp its communications. Its website, FaceBook page and LinkedIn page stand testament to its efforts at improving its channels of communication in terms of design and functionality. In addition to this, the Office of International and Alumni Relations has also begun the circulation of a newsletter to keep the alumni members better informed of new projects and developments at the Institute. Apart from providing updates, the newsletter also hopes to keep its alumni in the loop about student achievements, academic and social events, and IITM milestones.

As part of the communications overhaul, the IITM community has launched its blog called "Chennai 36" - another means to actively engage with faculty, staff, students, alumni and anyone else who may be

keen on following the news at IITM. This immensely popular blog run by and for the IITM community has been created by a team of students that also manages it along with the Office of International and Alumni Relations. The blog serves to bring the on-campus and off-campus community together through experiences and insights that are unique to IIT Madras. It provides a platform where members of the alumni get to share their stories of living and studying at the Institute with its current students. The blog makes for an interesting read; it is a great melting pot of ideas and identities and provides a fascinating insight into life at IITM.

- Website : <http://alumni.iitm.ac.in/>
-  : <https://www.facebook.com/iar.iitmadrass>
-  : [http://www.linkedin.com/groups?gid=1747&trk=myg\\_ugrp\\_ovr](http://www.linkedin.com/groups?gid=1747&trk=myg_ugrp_ovr)



**HOVERCRAFTS, FUSION REACTORS AND PORTS, AND THE THREAD THAT CONNECTS THEM: INNOVATION IN ENGINEERING**

**DR. MEKA VIJAY PAPA RAO**  
FOUNDER, AMMA LINES LTD.  
CHAIRMAN, REWAS PORT, MAHARASHTRA

**5.00 PM, FRIDAY, 21<sup>ST</sup> MARCH, 2014**

**AUDITORIUM, IC & SR BUILDING, IIT MADRAS**

**International and Alumni Relations, IIT Madras**  
1,284 likes · 80 talking about this

Government Organization  
The Office of Alumni Relations serves as the outward-facing window from the Institute to the Alumni.

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Photos Likes Events

“ He was a part of one of the most influential and successful public health campaigns of the 20th century, to help establish salt iodisation in over 50 countries. ”

Last year, Venkatesh Mannar [1970/BT/CE] was appointed Officer of the Order of Canada for his contribution in the field of salt iodization as a means to reduce micronutrient deficiency. This is the second highest honour for merit in Canada.

Born into a family that had been processing salt for generations, Mannar was enamoured by the idea of using salt as a means to end iodine deficiency. He left the family business to work as a consultant in the area of salt iodization for international organisations like UNICEF, World Food Programme and the WHO. He was a part of one of the most influential and successful public health campaigns of the 20th century, to help establish salt iodisation in over 50 countries. Today, over 4 billion people have access to iodised salt.

IITM honoured Venkatesh Mannar with a Distinguished Alumnus Award in 2011 for his outstanding contribution to the global campaign against micronutrient deficiency.



## DONOR INTERVIEWS

**How was your time at IIT Madras? Please tell us about your hostel life and your favorite curricular/extra-curricular/co-curricular activities.**

My stay at IIT Madras was, like for most students, my first time away from home. The sense of freedom was euphoric. Various students used or abused the freedom differently as is undoubtedly the case with every batch of students.

Unlike today, there was basically no means of communication with one's family living outside the city in those days other than by post. The postman's daily visit was a major event, more so when various foreign universities would send their responses to applications.

IITM and its environs was also much more pristine and undeveloped in those days. Taramani and Velachery were truly villages and a place to have a nice village chai. OAT movies and the Common Room were the centre point of entertainment. There was a lot more emphasis on sports as there was very little else to do. Workshop was for a week at a time and was also good physical exercise! The mess and the food were, as always, the hot topic of debate at the hostels, and hostels vied with each other for the (poorest) quality of food!

Much has changed, but the quality of the faculty and students remains at the same high level. It is only a long time after one leaves IITM that one begins to truly value what one has gained.

**A short description of your life after IIT Madras and how your time here may have influenced you.**

After IITM, 90% of my batch went abroad where they continue to live today. I was among the other 10% and so my story is atypical of those days. I

went to IIMC and then joined an FMCG. A few years down the road, I founded a company and have worked for that company ever since.

As I look at alumni of the IITs vis-a-vis those of other institutes, I see, at every level, a qualitative difference. No doubt this is a result of the tough intake process, but I believe that a strong foundation is set in those (then) five years, and that is what makes a person a successful business leader in his later life.

**A message to the current students**

I would say that this is a magical time of their lives. Concentrate on enjoying life, building relationships and lateral learning. The formal learning will happen anyway.

**A message to the faculty**

The faculty is the strength of the Institute and a core factor behind its reputation. I salute the faculty for their dedication to teaching. We are all what we are because the faculty of the day took the time to mould (often recalcitrant) lumps of clay. The current students may not understand this, but believe me, there comes a time when we understand and are grateful.

**A message to other alumni**

Please do understand that you are what you are in part because of the foundation that IITM laid for you. It is appropriate that each of us contribute financially and give of our terms of time, expertise, and so on to facilitate their pursuit of academic and research excellence. IITM has a low percentage of active alumni by international standards. I urge alumni to take the effort to give back to IITM in some way or the other.

**S**ankaran Naren passed out from IIT Madras with a B. Tech degree in Mechanical Engineering in 1987. But he still has fond memories of his time here. One of the first things we spoke about was about his time in the Institute. "It is an experience that brings you down to earth", he says. "Everyone is academically good and it humbles you because there are so many brilliant people working around you. Life in the hostel is also a very enriching experience"

When I asked him about what he enjoyed doing in the institute, he came the reply - Bridge. "I didn't find myself talented in Engineering courses, especially Workshops and Engineering Design, though there were challenging courses in each semester. We didn't have any rules on attendance either. So I spent a lot of time in the hostel playing bridge. The bridge culture in insti was quite vibrant then, though I have heard it was a more popular game before my time"

His message to the students is very simple. "If you have a certain ambition, keep working towards it. I

had an ambition to be a Fund Manager and I worked at it. If you had asked me in 1999 if I would have been a Fund Manager, I would have said no. But I am now. I believe no ambition is too big if you work towards it."

"The faculty were good" he tells me when I ask him if he has a message for our faculty. "I cannot give a message, but I will be very happy if I see IIT Madras as the best IIT in India. That would make me very happy."

**What does it mean to be an IITian?**

"IIT Madras is a stamp that will stay with you and help you throughout your life. It is a brilliant stamp."

*Sankaran Naren continued his education at IIM Calcutta after graduating from IIT Madras. He has worked as the COO of HDFC Securities and is currently the Chief Investment Officer, ICICI Prudential Mutual Funds.*

**V. Shankar**  
[1981/BT/ME]

**Sankaran Naren**  
[1987/BT/ME]  
(as told to our student interviewer)

### Life at IIT

Mr. Krishna Swaroop "Kittu" Kolluri, of the 1986 batch of the Mechanical Engineering department, had a very colourful life at IIT-Madras. He dabbled in sports, politics, and extra-curricular activities. While he played cricket for the institute team at the Inter-IIT sports meet, he also played badminton for his hostel, Godavari. As coordinator for the Light Music event at Mardi gras, Kittu was also quite the music-enthusiast. He was part of a music group that would take part in competitions at various cultural events like Festember, Mood Indigo etc.

He recalls insti life quite fondly, in that, "One of our favourite places to hang out was the Quark, right in front of Saras. After that, we'd move to the open ground next to it. We'd maybe play six-a-side football or just sit around singing into the wee hours of the night. If not the Quark, we used to love going to the OAT. It wasn't as much about the movie as it was the experience. This was where we'd meet students of other hostels; it was almost a social event. On some nights we might even head out to a theatre in Adyar and have dinner at Waldie's on the way back."

At one point General secretary of Godavari, he also stood for the post of General Secretary of the institute; to lose only to his own friend. After such an eventful life on campus, it isn't surprising that he felt that he had "extracted the full scope of education that IIT had to offer."

### Life After IIT

It's after IIT, you realize how valuable the friendships you make there are. I'm still in close touch with my

wingmates from back in college. It is only in insti, you make relationships just for the sake of it. Afterwards, as you head into a professional life, all relationships are of self-interest. You make your best friends at IIT.

### Message to Students

I would like to give to students the essence of the Karma Yoga; the third chapter of the Bhagavad Gita. Focus on the process and not on the outcome. You can't control the outcome. Just practice Shraddha; commitment to excellence. Try to be as perfect as you can. College life is about acquiring skill; not about the result. Follow your passions, is sound advice. At this stage, however, most of you may not know where your passions lie. It takes a certain amount of dedication and time, but eventually your passions will follow you.

### Message to Faculty

My humblest and deepest regards to my faculty. I wish this could be my figuratively touching their feet. Professors, like T.T. Narendran for instance, are hard to come by. He wasn't just a professor; he was a mentor to many of us. My professors were my gurus and I would be nowhere without them.

### Message to Alumni

Give back in whatever way you can to the institute that has given you so much, and brought you where you are today.

### On giving back

The reason for giving back was that I felt all of us are unusually privileged at the kind of exposure we got from the IIT campus - students and faculty. I developed a perspective on the world and what we could achieve if we tried hard, that I did not possess before I came to IIT. I do not hold that everything is perfect but some things are definitely great takeaways! The proximity to students of high calibre and the experience of preparing for an exam such as the JEE makes any person more organized, planned and capable - even the ones that don't get in. It is a good life skill.

### Things to note

I understood from all the hires that we have made at IIT Madras that they possess quantitative ability in plenty.

I would like the upcoming grads to focus on these two important aspects

- a) Technical Ability
- b) Expressing oneself

The technical skills one picks up helps one be numerate and also understand and justify an argument. Usually we are always on the technically correct side of the answer, because we know this well. That brings me to my next point. Once we are convinced of the technical correctness of something, we need to be clear, precise and effective in communicating our point of view.

The humanities courses in our time never helped us frame opinions or express them and justify them to our peers in a formal structured way. I feel that is something the students and the institute needs to

focus on - the need to bring together different kinds of opinions, communicate effectively and thereby empathize with alternate points of view.

### On how the students should improve

I am confident that once an IITian knows what he is supposed to do, he will become good at it. However, what they should focus on at the moment is to understand the importance of communication skills. In IIT, we were always judged on the factual correctness of an answer and never on how well the answer was written.

I did my PhD in Cornell in Physics. We had a lab course which was a compulsory part of the curriculum and had to be completed before we joined the research teams. The supervisor there told me that what I had done was done well, but what I had submitted for the report could have been better. According to him, "What you did looked first rate, what you wrote wasn't!" The conclusion which I could derive from the experience was that we usually focus on results and not on the presentation and synthetic aspects of communication.

I also believe that the students should be asked to give a public presentation of their final year project work. I hope this is happening. Also, 10% of a grade on a course should be based on a presentation and short project. It helps in thinking creatively, marshalling one's thoughts and in getting the point across convincingly.

### On how alumni should give back

The simplest way is to give money and let IITM use it for development. Also, the giving process should be

**Krishna Swaroop Kolluri**  
[1986/BT/ME]  
(as told to our student interviewer)

**Satish Ramakrishna and  
Rajeswari Ranganathan**  
[1987/BT/CE]  
(as told to our student interviewer)

more personal and might involve informal meetings at the campus or cities in the US/Europe/Singapore etc. On that note, I think IITM should not send emails to alumni and leave the alumnus with a doubt on the next course of action. Many times it is not clear what one is supposed to do after you receive an email from an IIT student or the alumni association.

#### On Cornell vs. IIT Madras

I did my final year project at IIT Madras in Physics though I belonged to the Low Current Department (LC), now called EE Department. I understood that IIT Madras was flexible if you took the initiative. However, most of the learning was not practical and that distinguished Cornell or US trained researchers from us. We took time to relate (or connect) the lessons in books to experiments (or on-field work). This might have been an issue just with me, as my Project was in Physics and not in the fields that IIT Madras had great facilities in at that time.

There was a lot of freedom and expectation of a questioning outlook at Cornell. People never used to associate questioning with disrespect there which was sometimes the case at IIT. Now that a lot of the alumni have come back to teach at IIT, and I am sure the culture has changed.

#### Memorable experiences

- a) Prof. Balakrishnan's and Prof. Antony Reddy's lectures were works of art! I still possess Prof. Balki's notes, lost Prof. Reddy's though. I used to bunk my regular lectures to attend Professor Balakrishnan's classes for M.Sc students, which were phenomenal. Every year there are one or two extremely interested people who do this. I was one of the 'physics-crazed' persons of the 1983-1987 batch.
- b) IIT System gave me the belief that if you had a will, there was a way. I pushed hard enough and realized that IITM was not averse to change. Prof. Narayana Rao, HoD at that time let me do my BTP in Physics.
- c) Late Night Bull sessions helped me understand that some bonds go really deep. My old roommates and wing mates are still close to me. I met 2 of them today when I came to Chennai.

- d) I was a decent quizzier, not the best. That was George George. Extra curriculars should be encouraged. Most of all, they help in improving your communication skills
- e) 1983 December Cyclone flooded the ground floor of Mandakini (my hostel). I could see all kinds of weird creatures coming out of the drains! It was very similar to Hurricane Sandy which I got to experience in New York!

#### On NCC

I felt the program could have been more inspiring. We could have been taken to a Gliding field in Tambaram. One of my IIT (batchmate from 1983 batch) friends is now a Commodore in the Indian Navy. He works on Tactical Intelligence and does some cool reverse engineering work of hardware that the Navy purchases. As an example, current NCC IITians could work on programming Flying Drones as a part of NCC and actually apply your technical knowledge there!

#### On shift from physics to finance

I did my Post Doc in Physics and that was around the time that the Berlin wall had collapsed. There were a lot of people who were getting research funding for science earlier and it used to come from the Defence budget. The situation was becoming difficult and I felt uninspired about the prospect for the future of the field. I came across this book "Options, Futures and Other Derivatives" by Prof John Hull of the University of Toronto. It was amazing. This was in 1993. I realized that the world of banking involved a lot of differential equations, modelling, etc.

I joined Citibank as a Quantitative analyst dealing with Commodity Options and Derivatives. I moved to Deutsche Bank after that and have been with DB for 17 years. I started to trade options in equity, progressed to run the Structured Options group, and subsequently moved to run the US Prime Finance division, which is basically lending money to Hedge funds in London, US, Hong Kong, etc. I am also now globally managing Risk for the Prime Finance group. On a daily basis I meet with Hedge fund managers and understand the different risks involved in lending to them, and in managing/minimizing our exposures to these risks.

Thank you for giving such an excellent world-class education which allowed me to comfortably measure up to the rigors of Masters and PhD programs at Polytechnic Institute of Brooklyn USA where I went for graduate studies in 1964. Being the very first batch, with graduate engineering school yet to start, we had the special privilege of being taught by professors and heads of departments. While all faculty members and supporting staff were excellent, for brevity I mention just a few with special thanks: EE Profs S.Sampath, P.Venkat Rao, V.G.K.Murthy, Achuthan, Zeineke, Profs Sinivasan and Hahn (Mathematics), Profs Ramasastryand Koch (Physics), Profs D.V.Reddyand Koetgen(Applied Mechanics), and several other professors covering Civil, Mechanical, Chemical and Metallurgy engineering subjects.

Being the first batch also meant some special adjustments because in the beginning IIT-M campus simply did not exist. Classes were held in a few rooms in Highway Research Institute, A.C. College of Technology and Central Leather Research Institute, and hostels were temporary accommodations in Saidapet and Guindy. Then, as soon as the ground floor of a wing of Civil Engineering building (the first to be built) was completed, classes were held there even as construction was going on all around us and above us, but hostels were not ready. So we had to cycle (everyone had a bicycle) from Saidapet/Guindy to Civil Engineering building and back every day. There were two ways: (a) via main gate (approximately where main gate is today) which was just a garden gate in the barbed wire fence that enclosed the campus or (b) via Guindy-Velachery road and through an old pedestrian gate at the

western edge of campus - we would sometimes lift bicycle over it to get through more easily. The few roads that were in the campus were dirt roads. Even in bad weather IIT-M never cancelled classes - once there was a big rain storm with some flooding, but we made it to classes, though quite wet. Then Cauvery hostel became ready which we occupied, soon followed by Krishna hostel which was occupied by the second batch. EE and other department buildings, workshop, a few staff quarters, a couple of paved roads and Gajendra Circle came a bit later. Once a student cyclist was knocked down by a deer which were abundant in the campus. So it was some adventure as well as high quality education!

In sports there was a bit of first batch - second batch rivalry. Jacob Dominic (first batch) and Syed Aleem (second batch) were top contenders in athletics. When second batch won the overall athletics contest they took a loud procession right past/through our hostel on way to their hostel! In table tennis S. Gopalakrishnan (first batch) and Subba Rao (second batch) were the top contenders. In those early years, sports facilities were yet to come. Friendly rivalries apart, for some reason the first two batches were quite close to each other, almost like the same batch.

By way of hobbies, Mahesh (second batch) built a bare-bones automobile go-cart on which he was skillfully careening around campus. Basu John (second batch) built his own telescope.

Because IIT-M was set up with West German aid, there were several West German professors. One night, a German professor in Humanities Department returning from the city (a party?) crashed his VW on

**Sarma N. Gullapalli**  
[1964/BT/EE]

a winding road in the campus - it was speculated that he had one too many. Also, we were taught German, by one very pleasant elderly German lady by name Frau Sarma (obviously married to an Indian), settled in Madras running an English medium school for children. She used to tease me saying "Du bist Herr Sarma, ich bin Frau Sarma"! Later on in 1971 when I got married, I came to know that my wife had attended her school!

Unlike today, in those days there were no pocket calculators and no CAD tools for drawing. Each one of us owned a slide rule and T-square on use of which our performance depended dearly.

In contrast to today's web sites, PCs and hand-held mobile devices that are readily available to students in the institute and in their rooms, in our days, even a TV was a novelty in India. At IIT-M, we were treated to a closed-circuit TV demonstration, and a small transistorized analog computer.

For medical care, the good doctor would regularly visit the hostels and dispense medicine. For some reason he was always giving Codopyrin tablets, as if it was some "sarva-roga-nivarini"!

For entertainment, on rare occasions when we found some time between the almost weekly "periodical" tests in one subject or the other which counted quite a bit towards final grade each semester and so kept us on our toes, we would cycle to main gate and catch a bus, or cycle all the way, to some restaurant or movie theater, nearest of which were in Mambalam or "Round Tana".

While at IIT-M, an incident that left a profound impression on me was Communist China's invasion of India in 1962, till which time we were lulled by "Hindi-Chini-Bhai-Bhai" delusion. In retrospect, it was as futile as the poor state of then Indian army, but we students from IIT-M enthusiastically spent hot weekend days cycling to places like Adyar, collecting donations door to door for the war effort. Another futile effort was accelerating our courses - we finished two months ahead, in February 1964. Convocation was presided by Vice President Dr. S. Radhakrishnan.

After IIT-M: In September 1964 I went to Polytechnic Institute of Brooklyn USA accepting a scholarship they had offered. I had never been on an airplane in my life, and I knew no one in New York or in the

entire USA. Luckily during registration time, I met IIT-M class mate S.Gowrinathan and one K.T.Chandy from IIT-Kharagpur. The three of us managed to find an old cheap rent-controlled fourth floor apartment (no elevator) within walking distance of Brooklyn Poly. None of us knew how to cook. We started with bread, butter, jam and boiled eggs, but soon we were making omelet, cooking rice, vegetables and even chicken. In the entire greater New York area and surroundings there were only three India / Pakistan restaurants and no Indian grocery store - the only store where we could get some spices was Armenian. I managed to finish M.S. in first year (Chandy and Gowrinathan also had no difficulty, they finished M.S. early in second year) and pass the dreaded PhD qualifying exams on first attempt in the second year. After first year, K.T. Chandy took up a job with Monsanto Chemicals and moved to Massachusetts, and his younger brother K.M. Chandy (IIT-M second batch EE) came to Brooklyn Poly and shared our apartment. By the third year, Gowrinathan took up job with Perkin Elmer Corp in Connecticut, K.M.Chandy went off to do PhD at Harvard and I was offered a full-time Instructor's job in EE Department of Brooklyn Poly and I could afford to move to relatively expensive International House, a multi-national dormitory near Columbia University in upper west side of Manhattan. By this time class mates Srinivas Nageshwar and R. Venkateswaran had been in Germany working for H.P, Sarosh Talukdar and P.C. Gupta in Purdue (I think) for graduate studies and S. Gopallakrishnan (mechanical) finished M.S. at Caltech and was doing PhD at M.I.T. Around this time Syed Aleem came to Brooklyn Poly, and from IIT-M EE staff Kotiveeriah went to Cornell and Dravid went to Wisconsin for PhD programs. Batch mates Nandakumar and V.L. Prasad went to IIM-Ahmedabad (early batches) and Prasad then went to Harvard. P.M.V. Subrahmaniam (Mallik) went to Houston and pioneered IIT-M alumni activities in North America. Veeraraghavan and Krishnamurthy went to Canada. After three years of full-time job I reverted to scholarship and finished PhD. Then I returned to India, got married, and taught for a year at B.I.T.S. Pilani before joining the Computer Division at E.C.I.L. Hyderabad. A few years later I had an opportunity to work in the interesting field of seismic signal processing for oil exploration (I was amazed how versatile EE background is), initially in Algeria, finally ending up in Houston. Then in 1983 Gowrinathan suggested that I should join Perkin

Elmer Corp in Danbury Connecticut to work on Hubble Space Telescope's high precision pointing control systems which included very fine optics. I am very thankful to him for that suggestion because from that time till my retirement in 2011, I enjoyed working on numerous very interesting projects in the fascinating field of electro-opto-mechanical systems.

The credit for India's enormous progress in the past fifty years goes entirely to all those who stayed in India with India through thick and thin and worked hard to make it happen including batch mates Amudachari, Devanathan, Jayaraman, Jha, Majhee, Neelakantan, Ramkumar, Sampathkumar, Srinivasan, Suryanarayana Rao, Vidyasagar, Venkateswara Rao, Tanhuna, Thangavelu and others, all at IIT-M, from top planners down to the labor work force, and certainly not to those who left India, like myself. Therefore I do not feel qualified to give any advice to IIT-M students. However, if I am asked to give some advice as an old man, I would humbly submit the following: (a) Plan, shape and pursue your career with some high goals - you will achieve them. Do not make the mistake I made - I did not plan my career. (b) Do not blindly

copy the west. Cherish the wisdom and values of Asian culture and traditions while imbibing the good from west such as the American founding fathers' wisdom to continuously work towards "a more perfect union" an attitude that admits there may be flaws that need correction - some flaws like injustice to African Americans have been mostly corrected but some other flaws like the enormous injustice to American Native Indians are yet to be corrected. If there are flaws in India that need correction, the union will be stronger if they are corrected. Believe me, India is a truly great nation, and you are part of it. But greatness requires admission and correction of one's flaws, such as corruption and the continuing misery of Mahatma Gandhi's Harijan. (c) Joy of giving is greater than that of accumulating wealth. You will find out when you help someone poor in your neighborhood. (d) Enjoy life and the beauty of diverse humanity that is all around you. Enjoy the immense beauty of nature - it is free.

My best wishes and regards to all other alumni in whose company I feel fortunate and proud to be part of.



**Attracting Serendipity: Managing Your Career for the Next 20 Years**

Prasad Setty  
[1992/BT/CH]  
VP, People Analytics & Compensation,  
Google  
Jan 17



**From Hacker to Entrepreneur: My Journey**

Ravi Pratap  
[2001/BT/CH]  
Co-founder, MobStac  
Feb 8



**Creativity – Your Unique Identity**

Dr. Natarajan Annamalai  
[1980/MS/CH]  
Management Consultant  
Feb 15



**Ecommerce Technology – Evolution over the past decade and current trends**

Dr. Madhavan Ramamoorthy  
[1988/BT/MT]  
VP, Bank of America Continuum India  
Feb 21



**New Era of Innovation in Global Science & Engineering**

Dr. Subra Suresh  
[1977/BT/ME],  
DA and President, Carnegie Mellon  
University  
July 18



**The 10 secrets to surviving the first year of entrepreneurship**

Gandharv S Bakshi  
[2005/BT/CSE]  
Co-Founder of Lumos Design  
Technology  
Aug 2



**How Big Data is Changing the World**

Dr. Anand Rajaraman  
[1993/BT/CS]  
2013 DA & Senior VP  
Walmart Global e-commerce  
Aug 13



**Career Success: Design or Choice?**

Vinod Aachi  
[1991/BT/ME]  
Global Head, Regional &  
Financial Markets  
Standard Chartered Bank, Singapore  
Aug 16



**The Excitement of Research and Advanced Technology Development: A Personal Journey**

Dr. C. Mohan  
[1977/BT/CH]  
Almaden Research Center  
Feb 22



**National Telecom Policy & Its Impact**

J. Gopal  
[1973/BT/EE & 1977/MT/EE]  
Former Advisor, Technology, Dept of  
Telecommunications  
Mar 8



**Good Entrepreneurs Rarely Take Risks**

Chandran Sankaran  
[1983/BT/EE]  
Founder & CEO,  
Zyme Solutions  
Mar 15



**Now for something a little different: from high tech to high spirits**

Desmond Nazareth  
[1981/BT/ME]  
MD, Agave India  
Aug 30



**Entrepreneur's Values**

Jainesh "Jay" Mehta  
Director, The Mehta Family  
Foundation, USA  
Sep 6



**What I wish I knew at 21 – Survival tips for the world beyond IIT**

Shripati Acharya  
[1988/BT/ME]  
Managing Partner AngelPrime  
Sep 13



**When you leave – issues & impact!**

Rasipuram (Russ) Arun  
[1980/BT/ME]  
General Manager, Bing Search  
& Advertising, Microsoft India  
Development Center  
Mar 22



**What is Entrepreneurship?**

K. Vaidyanathan  
[1985/BT/ME]  
Director & CEO, APA Engineering  
Mar 28



**The Smartphone Revolution**

Dr. Sandeep Sibal  
[1988/BT/EE]  
Country Manager & V.P., Business  
Development for Qualcomm India &  
South Asia  
Apr 5



**Following your gut: Lessons from Entrepreneurship & Wall Street**

Sharat Potharaju  
[2002/BT/CH]  
Co-founder and CEO MobStac  
Apr 5



**The Career Cheat-Sheet**

Bharath Kumar  
[2007/BT/ME]  
McKinsey & Co, Singapore  
Sep 20



**Consulting, Career and Fulfillment**

Akhil Krishna  
[2000/BT/ME]  
Associate Director, KPMG  
Oct 4



**Building Your Operacy Toolkit: Success Competencies you need that nobody bothers to help you learn**

Rathindra Nath Roy  
[1969/BT/EE]  
Oct 18



**Philosophy, Technology and Movies – The innovation recipe**

Dr. K. Subramanian  
[1995/BT/ME]  
Oct 31



**Competitive Exams and Preparation Strategies for these**

Rajesh Balasubramanian  
[2001/BT/EE]  
Director, Ascent Education,  
Apr 12



**Management lessons of working in "not profit" organizations**

Jon Stettner  
President and Chief Executive Officer  
Make-A-Wish International, USA  
Apr 25



**Being Smart is not just good enough today and you have to be wise to be successful in the world**

Dr. Prasad Kaipa  
[1981/PhD/PH]  
CEO Advisor and Coach  
Apr 25



**Analytics – The Next Frontier**

Venkat Viswanathan  
[1992/BT/CE]  
Founder & CEO LatentView  
Nov 8



**Entrepreneurial Success of Two IITians**

Ashok Khanna  
[1967/BT/ME]  
Vice Chairman  
C&S Electric Ltd, Delhi  
Nov 25



**Smart Networked Systems**

Dr. Ram D. Sriiram  
[1980/BT/CE]  
Chief, Software & Systems Division  
National Institute of Standards and  
Technology, USA  
Dec 11

# B.R. SENGUPTO LECTURE SERIES

Professor Sengupto, the first Director of IIT Madras, is remembered widely as a figure whose primary concern was the welfare of the campus and its occupants. It was during his days at IITM that the Institute's signature blend of solid student-teacher interactions and pioneering research was introduced, with the latter taking firm root during the tenure of the second Director, Professor A. Ramachandran.

Professor Sengupto was also responsible for the creation of many iconic symbols that people readily associate with IITM— the logo, the motto, the Gajendra circle and the names of the different hostels.

As Pukhraj Jain [1965/BT/MT] so eloquently put it, "Under Prof. B.R. Sengupto's leadership, teachers and staff built this institution. We all want to remember his leadership that stemmed from a solid value base, compassion, and selfless service— all of which made the Institution achieve the stature it has today." It was these very inspiring qualities that led Mr. Jain to sponsor an annual lecture series, dubbed the B.R. Sengupto Lecture Series, for the Institute.

The first talk in this series was delivered at the IC & SR Auditorium IITM, by Dr. E.G. Ramachandran, Retired Senior Professor, Metallurgy, on the 19th of December 2013. Apart from working as a research scholar under Professor Sir C.V. Raman, his long service at IITM has been tempered with many honours, including the Presidentship of the Indian Institute of Metals. The first lecture was titled "Leadership".



Dr. Ramachandran spoke highly of the leadership of Professor Sengupto, describing in vivid detail his personal involvement and leadership style which helped lay the cornerstones of the Institute. Prof. Sengupto's contributions as Director of IITM formed the scaffold of the lecture and drew reference to his farsightedness, progressiveness, development centricity and pedagogical amelioration.

The lecture by Dr. Ramachandran served to illustrate the importance of the legacy of leadership for both faculty and students.



# FINANCIALS AND PROJECT STATUS



Fund raising by IIT Madras started nearly a decade ago as an effort to improve specific facilities and Centres on campus. Later it evolved to a broader agenda of enhancing the stature and image of the Institute as a whole. Today the efforts are focused on enhancing IITM's teaching/training, research, innovation, and entrepreneurial initiatives in order to catalyze a transformational change in the society.

fund statistics

104

106 fundraising workshops

graduand pledge

107

107

caution deposit  
waiver scheme

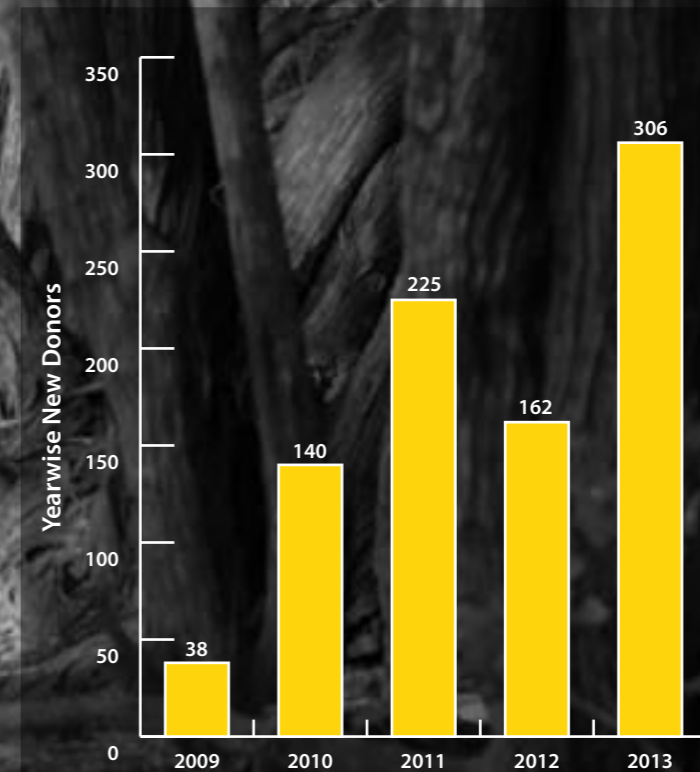
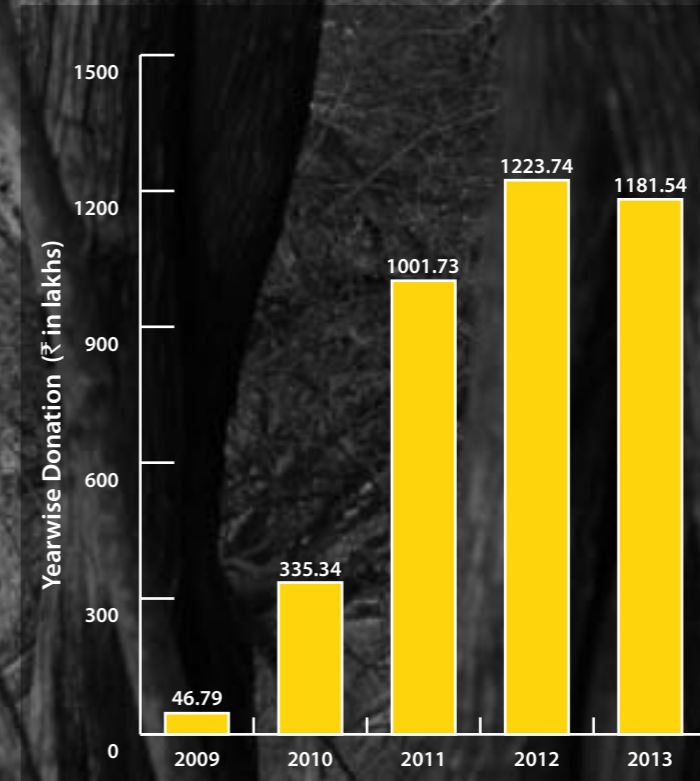
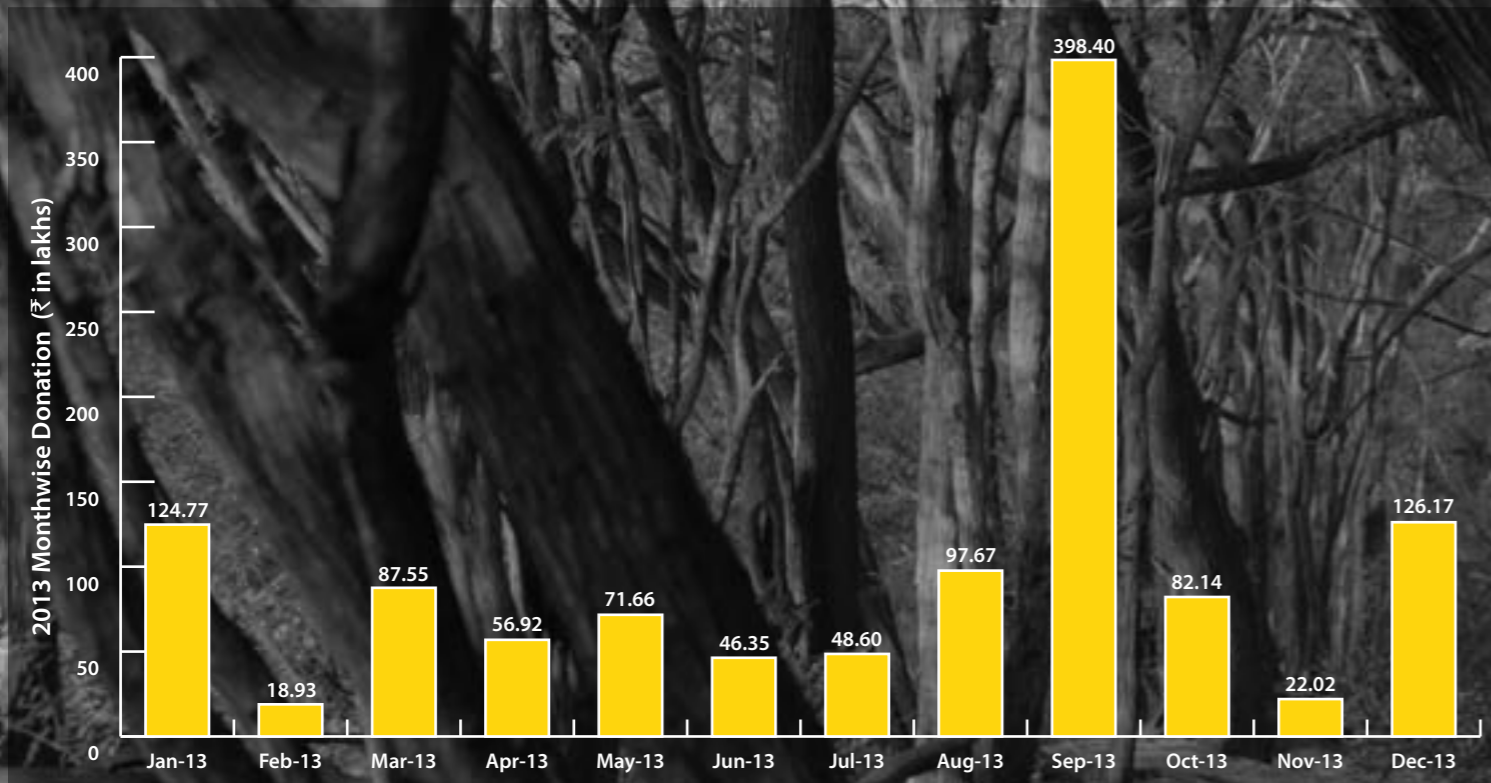
fundraising  
initiatives

108

110

star donors

# FUND STATISTICS



## FUNDRAISING WORKSHOPS

Fund raising is an important aspect and a top agenda item for all IITs in the country.

In January 2013, a workshop on the lines of the IIT KGP fundraising workshop in 2012, was held in IIT Madras. The IITs of Mumbai, Guwahati, Kanpur, Gandhinagar, Kharagpur and Delhi participated in this Chennai edition. Marty Holmes, Vice President of Marketing and Programs of the Association of Former Students and Chandrika Rajagopal, Program & Advancement Co-ordinator of the Center for Teaching Excellence, both from Texas A&M joined the workshop and shared their fund raising strategies with the audience.

Each Institute talked about their unique approach to fundraising and alumni relations, and elaborated their strategies, practices, and challenges. This was a mutually enriching and learning experience for each of the IITs. The event closed with an Executive Summary session chaired by the Director of IITM, Prof. Bhaskar Ramamurthi.

On the 23rd and 24th of August 2013, IIT Bombay held a workshop on "Alumni Relations and Fundraising." Deans responsible for resources, alumni and external relations from all the IITs in the country were invited to this semi-annual event and given an opportunity to share their experiences on one platform. The key items discussed during this workshop were the Development Office, alumni engagement, internal engagement and IIT-wide initiatives.

The highlight of the workshop was a presentation by Mark Dollhopf, Executive Director, Association of Yale Alumni. Professor Nagarajan (Dean, I & AR) and Suresh (OIAR) attended the meeting as representatives of IIT Madras.

## GRADUAND PLEDGE

Instituted in 2010, the Graduand pledge hopes to create awareness regarding the concept of giving back to one's alma mater. The graduands can choose to commit to an initiative and begin payment a year after they find employment. Another option is to provide a one-time donation of at least Rs. 2000 and recurring donations of at least Rs. 500 per month. The pledged amount is placed in a corpus, which will

then be put to use by the Institute on a discretionary basis. The process also helps in creating a database for the Institute to facilitate future communication.

In 2013, the hostel with the maximum number of pledges was Mahanadhi with Pampa bagging the award for the highest amount pledged.



## CAUTION DEPOSIT WAIVER SCHEME

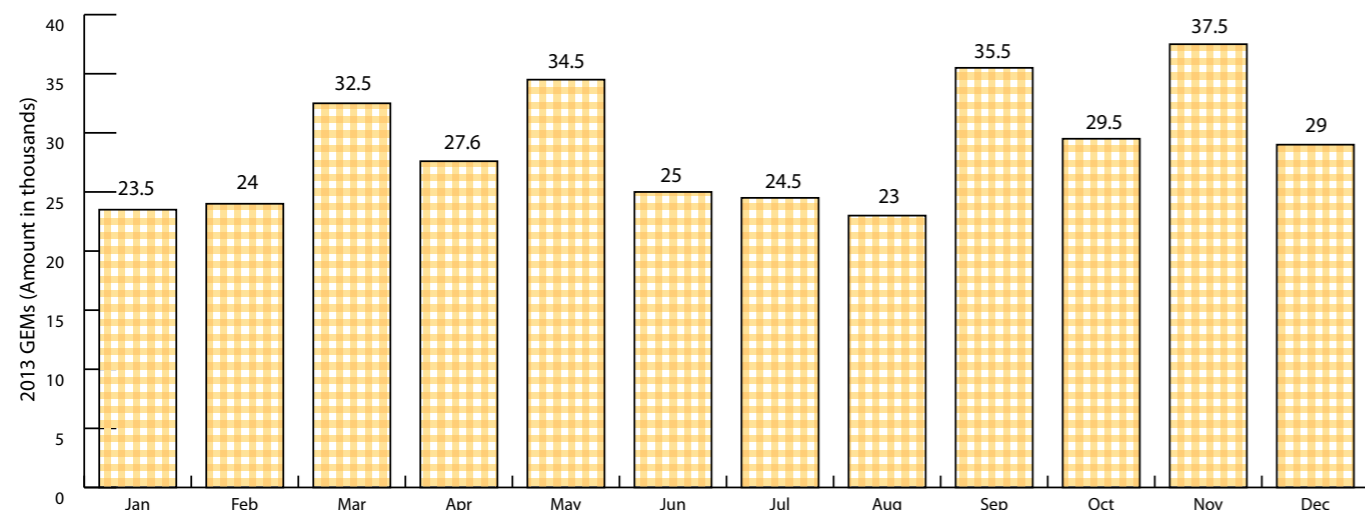
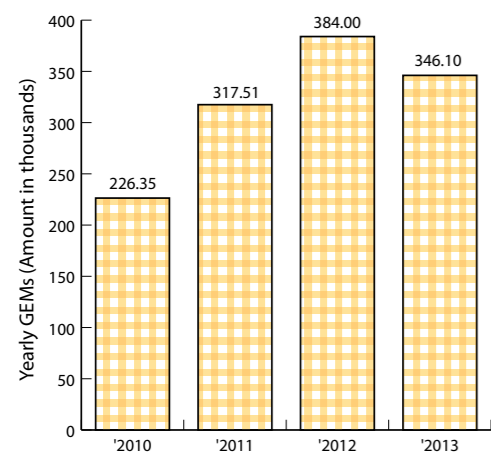
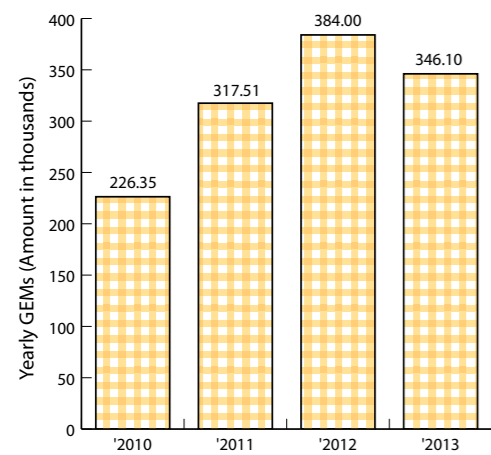
The Institute has always striven to create a passion in its students to give back to their alma mater. The endeavour has been a successful one. The batch of 2013 waived their caution deposit in support of CFI's development. The majority of the 208 students voted in favour of the donation. The batch of 2013 has thus become the youngest set of donors in IIT-M history. The CFI student representative says, "The entire CFI team is thankful to the Batch of 2013 for their generous gift to the Centre for Innovation, IIT Madras. Your contributions will help in improving facilities at CFI, enabling students to thrive and create a greater impact on the society."



# FUNDRAISING INITIATIVES

## GIVE EVERY MONTH SCHEME

## ALUMNI ENDOWMENT FUND



The Give Every Month scheme is a recurring donation programme that encourages alumni to contribute to their alma mater financially. By providing a fixed, regular contribution, alumni can help the Institute attain its goals. These contributions enable students to travel abroad to present papers, attend workshops and conferences, and also undertake internships. It also contributes to the growing infrastructure of IIT-M. Alumni who contribute through this scheme are felicitated, and receive benefits like T-shirts, exclusive receptions with the Director twice a year, and special recognition at IITM Alumni events.

To know more about GEMs, please visit <http://www.iitmadrass.org> if in the USA. People outside the USA can access <http://gjfund.iitm.ac.in>.



The Alumni Endowment Fund was first created in 2011 with an initial contribution of Rs. 266 lakhs, generously given by the batch of 1985. Following this, the 1986 and 1987 batches added Rs. 1.3 lakhs and Rs. 212 lakhs respectively to the fund during their Silver reunions. Currently worth Rs. 465 lakhs, this endowment was created so that the annual interest could be utilized to fund initiatives that would have a key transformational impact on the Institute, and help bolster its image as a world-class technology institute.

Each year, the Director ensures that the capital in the fund is not dipped into and that the disbursements do not exceed the interest accrued on the investments.

The project selection for the endowment mandates the following so as to further the cause for which the money was originally raised:

- Key transformational initiatives, where the results are uncertain and hence not eligible for regular government funds

- Catalysts in high-risk projects, some of which may later receive government funding once success has been documented
- Support the Institute through innovative strategies to help IITM hold its place among premier global institutions

During the year 2013, Rs. 10 lakhs was deployed for the IITM Travel Grant, because of the increase in the number of students and faculty members wanting to participate in international conferences and workshops. This helped provide much-needed exposure to the Institute. The grant also supports short-term research scholar and faculty visits to collaborator laboratories outside the country. The fund has previously helped sponsor the IIT Madras Student Satellite Project.

The Office of International and Alumni Relations has been the beneficiary of an endowment of Rs. 9.7 lakhs this year, targeted towards hiring additional staff.

“...this endowment was created so that the annual interest could be utilized to fund initiatives that would have a key transformational impact on the Institute...”

## January

Sarma N. Gullapalli [1964/BT/EE]

Donated Rs. 4 lakhs for the Gandhi Hatara Award

Category: Student Amenities

I have been thinking about the problem of corruption for a long time, and have become convinced that the only mechanism to fight and check it effectively would be an impersonal, automated one that minimizes the subjectivity of human intervention. Where human intervention was needed, it struck me that the body of people that were least corruptible and most outspoken in their opposition to corruption were students—a potent, abundant, and cost-effective body that could be easily trained through curricular and extracurricular sociology and computer science exercises. It then seemed only natural that the most eligible candidates for creating a fool-proof system to link the two components—technological and human—were IIT-ians. This endeavour of creating a watertight anti-corruption mechanism, I was convinced, was worth undertaking as a long-term project. Once this system is in place, students nationwide, especially law students, journalism students and high school and college students, can use the data in the databases to get the judiciary to act.



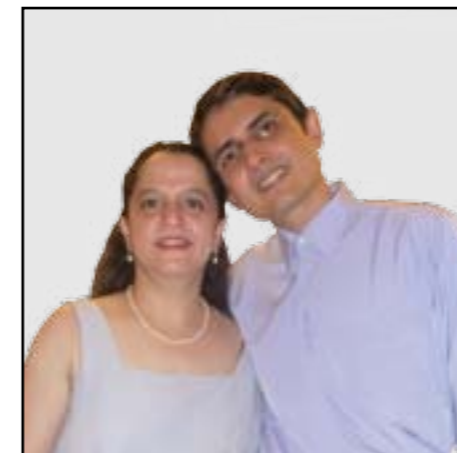
## February & July

M.T. Raghunath [1987/BT/CS]

Donated Rs. 3 lakhs to the Alumni Endowment Fund & 3,36,005 to the Alumni Endowment Fund (in February and July respectively)

Category: Endowment

We had a wonderful 25th year Silver Reunion on campus in December, where several of us got together and had a lot of fun re-living a part of the IIT experience. Giving back to IITM seemed to be the right thing to do. It is a small gesture of gratitude to the institution that has been responsible for helping shape us into what we are today.



## March

Vivek & Kalpana Chaudhri [1987/BT/ME]

Donated Rs. 5 lakhs to the Alumni Endowment Fund

Category: Endowment

I attribute at least 80% of my success and where I am today to the 4 years spent at IITM—learning from some great professors and building lifelong friendships with some truly outstanding classmates. This small contribution to IITM is our modest repayment for an incredible education, which was unbelievably, almost free.

Fellow alumni, I am sure you would agree with me and join me in giving back to our alma mater!

## April

M.S. Karthikeyan [1987/BT/CS]

Donated Rs. 29,41,120 for the Alumni Endowment Fund

Category: Endowment

## May

George George [1987/BT/EE]

Donated Rs. 3 lakhs for the Alumni Endowment Fund

Category: Endowment

## May

Arvind Sundarajan [1987/BT/CH]

Donated Rs. 2,87,500 for the Alumni Endowment Fund

Category: Endowment



## June

Shrikumar Suryanarayan [1982/BT/CH]

Donated Rs. 25 lakhs to the Entrepreneurship Scheme for the Biotech Department

Category: Entrepreneurship initiatives

IITM is my Alma. I have learnt a lot there and I believe in giving back as much as I can. Encouraging technological entrepreneurship is really important for our country as it creates jobs and a vibrant and creative industrial base.

August & November

H.S. Srinath [1977/BT/EE]

Donated Rs. 1, 25,000 each in August and November for air-conditioning of the CRC

Category: Physical infrastructure

I donated the funds as part of the 1977 Batch fund-raising to pay for the air-conditioning for one of the mess halls.



October

Pukhraj Jain [1965/BT/MT]

Donated Rs. 6, 14,221 for the Prof. B R Sen Gupto Leadership Lectures

Category: Endowment

This grant was given to honour those people who made a difference in our lives. Under Prof. B.R. Sengupto's leadership, the teachers and staff built this institution. We all want to remember their leadership which was based on principles. Prof. Sengupto's heart was full of compassion and selfless service-both vital ingredients for the success of this now great institution. In short, this donation was given to remember and memorialize the "Karma Yogis of IITM."

September

Srinivasan V. [1977/BT/MT]

Donated Rs. 10 lakhs for the Sriram Srinivasan Scholarship

Category: Endowment

We as a family have a very strong association with IIT Madras. Four of us-my brother-in-law (B.Tech 1968-72), my sister (Ph.D 1979-83), my son ( B.Tech 2007-11), and I ( B Tech 1972-77) have gained so much from the Institute in terms of values, knowledge, friends, and fond memories that it was always on the cards that the family will endeavour to pay back to the Institute in its own way. But the sudden death of my 23 year old son last year made us act with greater urgency. This is the second year of a four year commitment I made last November. We will feel truly satisfied when we complete the contribution in 2015 as per plan. Thereon, there will be a student in each year of the four year B.Tech program benefiting from the "Sriram Srinivasan Scholarship" in perpetuity.



December

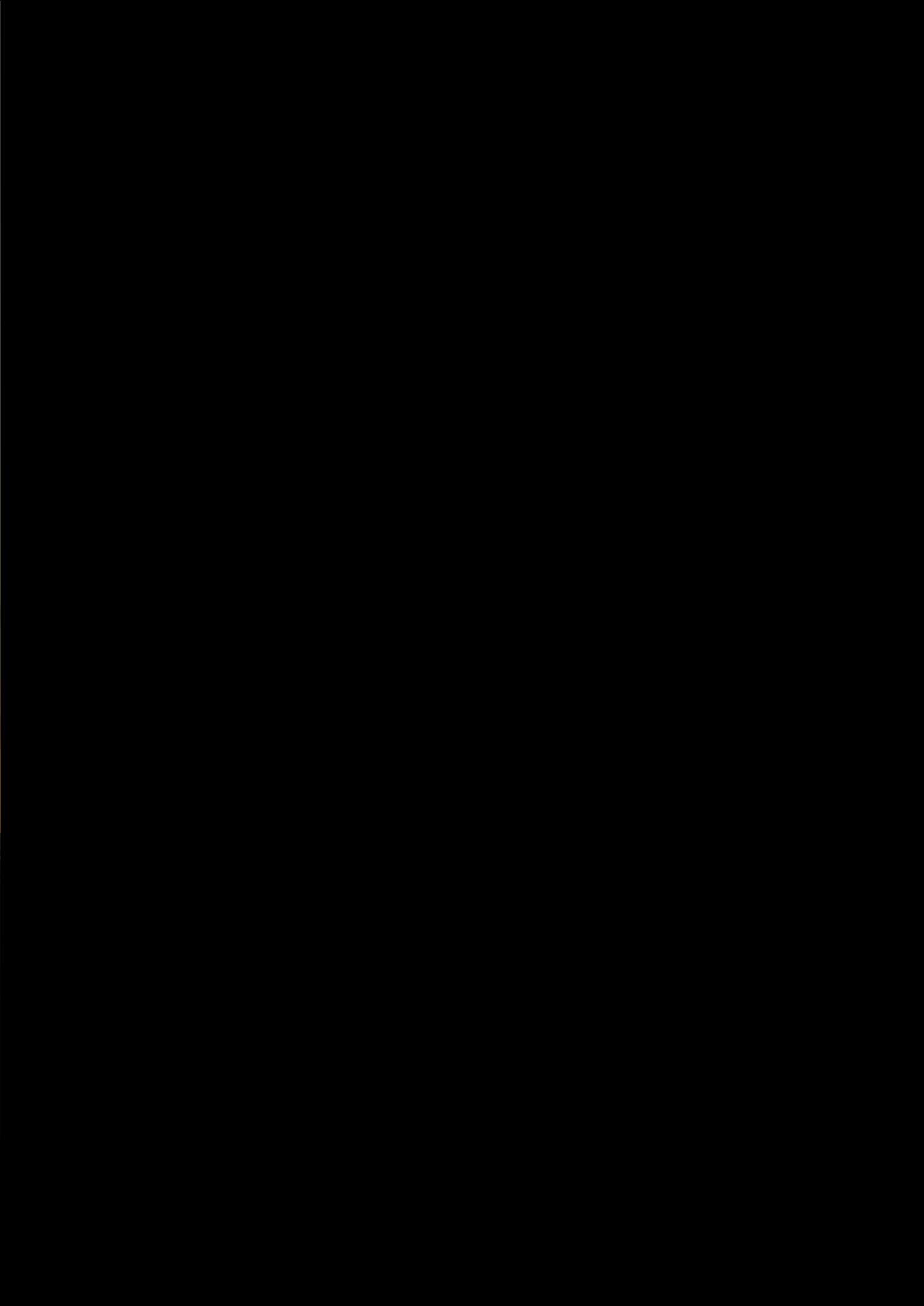
Dr. Ashok S. Krishna [1974/BT/CH]

Donated Rs. 15 lakhs for a research project

Category: Chemical Engineering Department

I had an opportunity to tour the Department of Chemical Engineering, meet the young faculty and preview the research programs. I was compelled to go back to my employer, Chevron, and secure a small grant to supplement young faculty research in the energy field. This program will keep Chevron connected to the Institute, and open pathways for future engagements including recruitment on campus.





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