Kris Gopalakrishnan
Impact of Giving

Indian Institute of Technology Madras

Kris Gopalakrishnan

Introduction

We would like to start this 'Impact of Giving' with a heartfelt thanks to Shri Kris Gopalakrishnan and Smt. Sudha Gopalakrishnan for their benevolent continuing contributions to IIT Madras.

He began his career as a software engineer with Patni Computer Systems, Mumbai, in 1979 and co-founded Infosys in 1981 with six other entrepreneurs and became CEO and Managing Director of Infosys Technologies Limited. It is enthralling to note his efforts for young entrepreneurs which was evident with co-founding of Axilor Ventures in 2014. IIT Madras is proud to mention that its Alumnus Shri Kris Gopalakrishnan was awarded with Padma Bhushan by Government of India in 2011. He has served on influential bodies such as United Nations Global compact Board.

After his term as Vice Chairman of Infosys in 2014, he focussed more to support research. His choice of field was, "Brain" as he thought "Computing" which would hold his interest and offer numerous opportunities was close to "Brain". Connecting social purpose and clinical aspects his words were:

"I also wanted to add a dimension of social purpose by addressing the issue of ageing. That's how the clinical aspect came about." His belief and decision are that world-class research can be done in India.

He has expressed his concern that, "We need to think big, have ambitious goals, larger teams working towards them and more funding…. We don't have a large pool of private money coming into research, especially philanthropic money."

He has contributed to set up three distinguished Chairs in the name of
(i) N R Narayana Murthy
(ii) C R Muthu Krishnan
(iii) H N Mahabala
for setting up Computational Brain Research at the Indian Institute of Technology Madras, his alma mater. Let us now take a vivid look, as to how his contributions to IIT Madras has touched many spheres of society.

IIT Madras aims to provide sustainable solutions to societal problems which is made possible by the contribution from our alumni donors, one of the donors who have donated the highest so far in the history of IIT Madras, lovingly called as the "Akshaya Patra" of IIT Madras is Shri Kris Gopalakrishnan [1977/MSc/PH & 1979/

Let us take a vivid look, at how his contributions to IIT Madras have touched many spheres of the society.

Socially Relevant Projects (SRP) Program

IITM's aim of providing sustainable solutions to societal problems is made possible by the contribution from our alumni like Shri Kris.

The Socially Relevant Projects program, which started in the year 2003, is being supported by funds received received from him and others. In 2011, in honour of Prof. M.S. Ananth, then director, "Prof. M.S. Ananth Endowment Fund" was established. The principal amount is created as endowment and the interest from this fund is being utilized to provide financial assistance towards the Self-Help-Group staff members working on IITM campus and Socially Relevant Projects.

S.No	Title	Co-ordinator	Department
1.	Property tax optimization for urban local bodies	Dr. Thillairajan A	MS
2.	Publish science books at high school level in regional languages and donate them to village school libraries	Dr. V Srinivasa Chakravarthy	BT
3.	A holistic educational outreach to inspire transformational change	Dr. Vijayalakshmi V	MS
4.	One Lab - One School	Dr. Pijush Ghosh	AM
5.	Compact Robotic Vehicle (CRV) for septic tank and sewer line inspection	Dr. Prabhu Rajagopal	ME
6.	Development of a system for assessment of onset of behavioural changes in children with autism disorder using surface electrodes	Dr. Ramakrishnan S	AM

The Project details are given below :

1. Property tax optimization for urban local bodies:

Project co-ordinator - Dr. Thillairajan A, Dept. of Management Studies

Used for smart city planning, a full- stack software program have been created that will store the back-end details on urban parameters. A front-end interface was created to interact with the data and display of maps based analytics at the front end.

Application areas for this project include smart city planning, regulating building violations, property tax collection optimization, revenue generation, prediction of future civic infrastructure needs.

2. Publish science books at high school level in regional languages and donate them to village school libraries – Phase II

Project co-ordinator - Dr. V Srinivasa Chakravarthy, Dept. of Biotechnology

Totally 4 new Telugu books were published as a part of this project and copies of the books were sent to 270 rural schools in Andhra Pradesh and Telangana states.

A set of 4 books from Isaac Asimov's "How did we find out?" series was translated and published. 300 copies of 4 tamil science books were ordered for distribution. 200 sets from the above 300 sets will be donated to Dr. Ravishankar Arunachalam of the NGO Chudar for distribution and use within their educational centres. The remaining 100 sets will be sent to district libraries and some select schools.

3. A holistic educational outreach to inspire transformational change

Project coordinator - Dr. Vijayalakshmi V, Dept. of Management Studies

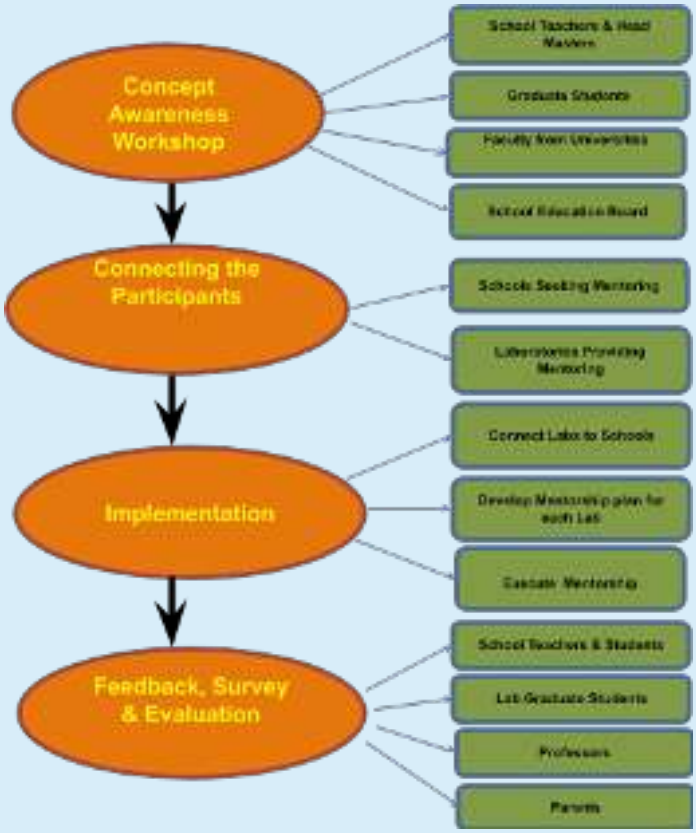
This proposal aims to provide an applicable holistic model of education that looks at the holistic development of the mind, vital life force, body and soul of the high school students considering the need of true education. The work proposed draws from “inside out and full rounded” approach to development through holistic map of inner faculties

Development of Humane Action (DHAN) foundation has identified schools where the development work will be carried out. The first batch of 75 students is underway. The research team of academicians, practitioners and educationalist came up with a pilot framework called “to evolve” based on feedback from workshops conducted for various schools (as part of the project).

4. One Lab – One School

Project coordinator - Dr. Pijush Ghosh, Dept. of Applied Mechanics

The objective of this proposal is, to develop a sustainable national level mentorship program where, graduate students and professors of different laboratories in elite institutions such as IITs, NITs, etc., will mentor school students in rural and remote areas. The resources necessary for the labs to visit the schools in terms of the devices, presentations etc are under preparation.

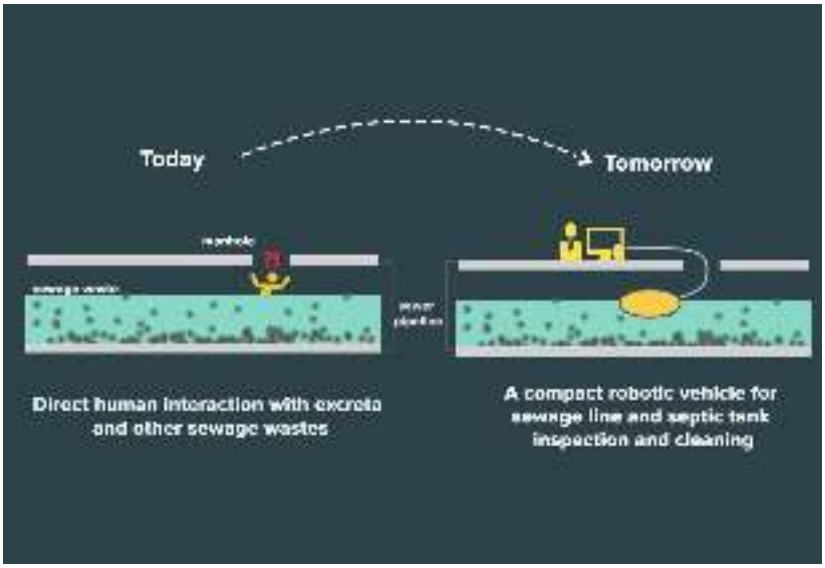


5. Compact Robotic Vehicle (CRV) for septic tank and sewer line inspection

Project coordinator - Dr. Prabhu Rajagopal, Dept. of Mechanical Engineering

Mauual scavenging is considered the most dangerous occupation killing at least 22000 workers every year. Though made illegal in India in 2013, the practise is still widespread. This project aims at developing an affordable robotic vehicle to perform these tasks and eliminate manual scavenging

Lately, there has been extensive ongoing research in the field of underwater bio inspired propulsion at the "Centre of Non Destructive Evaluation" IIT Madras. The goal of this project is to design and fabricate an underwater remotely operated vehicle capable of carrying cleaning and inspection systems for septic tanks and possibility for extending to sewage lines.



6. Development of a system for assessment of onset of behavioural changes in children with autism disorder using surface electrodes

Project coordinator - Dr. Ramakrishnan S, Dept. of Applied Mechanics

Currently, no technology based objective evaluation tools are available to diagnosis and monitor autism affected children. Autism Spectrum Disorder (ASD) is a neurodevelopment disorder which leads to impairment in emotional and behavioural activities. Studies revealed the potential association between emotional changes and Electro-dermal Activity (EDA) responses. The Proposed work is development of an expert system based Electro-dermal Activity monitoring system that can quantify the onset of behaviour changes.

IITM Campus Welfare Trust Owzone Project

In 2017, 52 children of the IITM campus Self-Help-Group staff, have been given support of their tuition fees totalling to Rs 9.97 lakhs through this scheme.

Distinguished Chair Professorship in Computational Brain Research

Shri Kris has always been fascinated with the research in the field of brain-related diseases such as Dementia, Alzheimer's, etc,. Looming Diseases like Dementia and Alzheimer's is increasing its prevalence in India. It is also among the most poorly-understood of health problems in our country. His contribution to brain research stands out, in its sheer size - since he is one of the largest donors in this research field and the focus on one area by an individual.

"With the new tools that are available, we may come out with a better understanding of dementia, something for which there is no cure and no prevention because we still don't understand the reasons for it," says Shri Kris.

Thanks to the contributions by Shri Kris that we now have funds for both the disease's research. There is rarely a philanthropist in our alumnus with such a passion to make a difference in this area of research.

H N Mahabala Distinguished Chair – Instituted year: 2014

RESEARCH- ONGOING

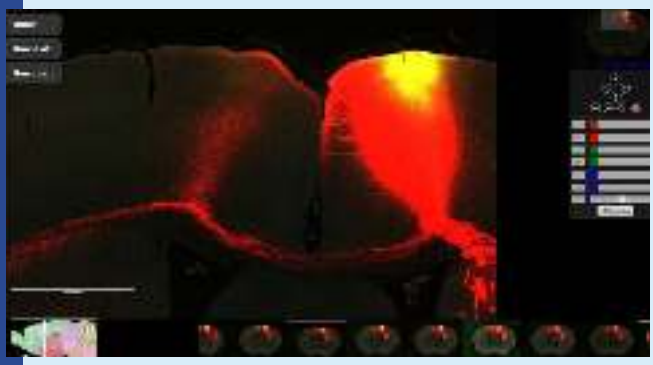
- *Development of a high throughput computational pipeline for the automatic registration of multimodal neuro-physiological images.*
- *Automated tools for the analysis of the brain structures in the whole brain.*
- *Population analysis of neurons and associated structures in the mouse model of Autism.*
- *Automated extraction of brain connectivity and relevant information from published literature using NLP techniques.*
- *Ultrasound tomography: a novel technique for imaging the brain.*

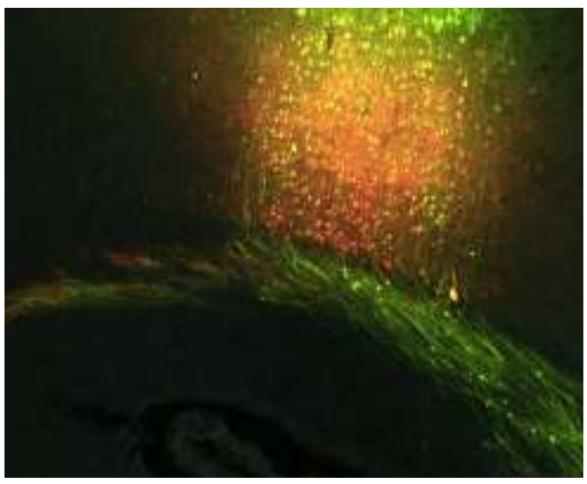
DEVELOPMENT

- *High resolution computational and experimental pipeline for imaging and analysis of whole human brains at micron resolution (Synergy grant applied to the Government of India, under review).*
- *Explainable Machine-learning for Computer Vision and Neuroscience (Indo Swedish joint network grant, under review).*

IMPACT

The HN Mahabala Chair Professorship to Prof. Partha Mitra has resulted in significant contributions to IITM over the past 5 years. It has directly resulted in the development and delivery of the annual CCBR workshop which has become a signature event in the campus in computational brain research attracting students from different parts of the country and lectures by renowned faculty from around the world. This evolution of the workshop has morphed into the winter course on Machine Intelligence and Brain Research, a 2-credit (old system) course at IITM (Course ID: 7123).





The work supported by the Chair Professorship has resulted in 13 publications in leading neuroscience conferences and journals. The work under the chair professorship has also planted the seeds for a "Indian Brain Initiative" with the first steps taken to develop a Computational and Experimental Platform for High Resolution Terapixel Imaging of ex-vivo Human Brains , which would be the first of its kind effort in the country.

The funding for this ambitious project is under review from the Government of India. The reviews have been highly positive, and the proposal is under process by the agency.

N R Narayanamurthy Distinguished Chair – Instituted year: 2015

RESEARCH- ONGOING

- *A High Resolution-based Signal Processing Algorithm for Spike Estimation from Imaging Data.*
- *Mouse Visual Cortex Segmentation Using Statistical Models.*
- *Modeling Neuronal Responses Using Machine Learning.*
- *Receptive Field Identification of Visual Cortex Neurons.*
- *Electroencephalography (EEG) Lab.*
- *The Influence of Astrocytes on the Width of the Orientation Hypercolumn: A computational perspective.*
- *Fiber laser-based two- and three-photon systems for deep-tissue wide-field live brain imaging.*

IMPACT

The NR Narayanamurthy Chair Professorship in Computational Brain Research was awarded to Prof Mriganka Sur from MIT, USA. Prof Sur's research at CCBR mainly focuses on the understanding of brain physiological signals during tasks. The research has extensive collaborations within IITM.

Using data collected with wide-field microscopy in Sur's lab, the properties of various visual areas in the mouse brain is studied using data-driven models. A 128-Channel EEG lab has been set up in IIT Madras to collect brain signals from the human brain. They also explore various algorithms to study artifacts, mental state, speech, and biometric information in EEG. The ultimate objective is to build brain-computer interfaces using a minimum number of EEG

channels for people with disabilities. On all the project mentioned above, Prof. Sur's lab in collaboration with IITM Prof. Hema Murthy, have nine conference publications and a journal publication. Further, a journal paper is currently under peer-review, and two more journal manuscripts are soon to be submitted.

In addition, Prof Sur, in collaboration with Prof Srinivas Chakravarthy from IITM has modelled the responses of astrocytes to visual stimulation in the primary visual cortex to better understand the function of these specialized cells in the brain. Prof Sur also collaborates with Prof Anil Prabhakar to develop wide field imaging techniques of the brain and to improve the quality of lasers used in 2 photon and 3 photon calcium imaging of the brain.

C R Muthukrishnan Distinguished Chair – Instituted year: 2015

RESEARCH- ONGOING

- Improving the efficiency of neural networks through dynamic variable effort deep networks.
- Fovea-inspired object detection in video.
- An event-driven processor for spiking neural networks.
- Enabling intelligence on power-constrained Internet-of-Things edge devices

DEVELOPMENT

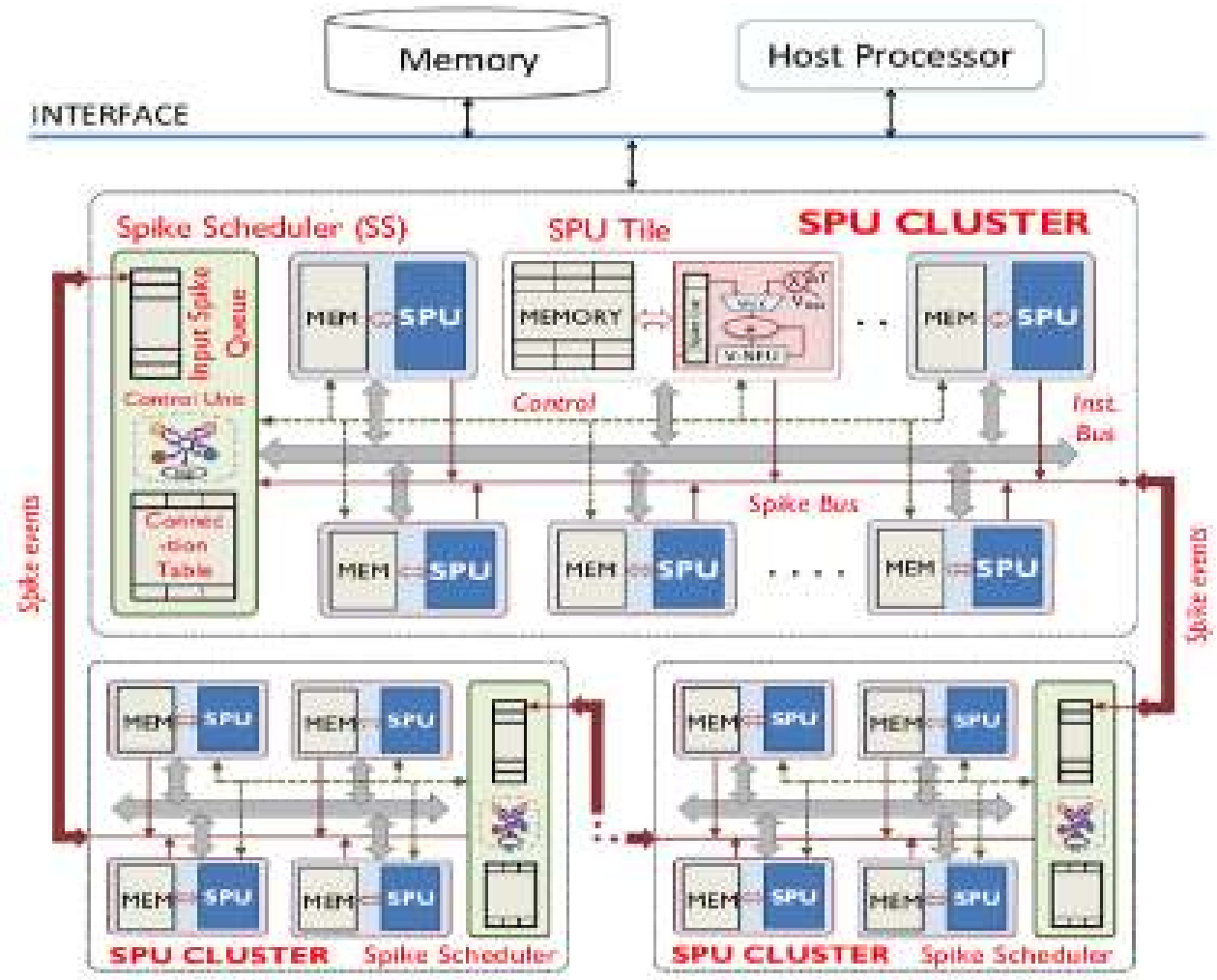
- Development of a brain inspired neuromorphic chip (Proposal currently in the development phase).
- High resolution computational and experimental pipeline for imaging and analysis of whole human brains at micron resolution (Synergy grant applied to the Government of India, under review).

IMPACT

The CR Muthukrishanan Chair Professorship in Computational Brain Research was awarded to Prof Anand Raghunathan from Purdue University. Prof Raghunathan's research at CCBR mainly focuses brain-inspired computing, in other words, drawing from the key information processing principles of the brain in order to create more efficient computing systems.

The research has extensive collobarations within IITM. Prof Raghunathan along with Profs. V. Kamakoti, Nitin Chandrachoodan and Pratyush Panda has explored processors for spiking neural networks, an emerging class of neural networks that encode and process information in the form of spatio-temporal spikes, more or less how we think the brain processes information. This research has laid the foundation for the design of a massively parallel event-driven processing system based on IITM's open-source Shakti processor cores. The team expects to create HW prototypes (FPGA

prototype followed by chip tapeout) of an “IITM neuromorphic chip” in the next 2-3 years with a grant funding proposal currently being developed for submission.



Prof Raghunathan, along with the IITM team is also currently working on processors that enable complex neural networks to be executed on highly CSWaP (Cost, Size, Weight and Power) constrained Internet of Things (IoT) devices. The mainstream approach of using hardware accelerators imposes significant area and cost overheads since it involves large numbers of processing elements and on-chip memory. Instead, the IITM team is developing software and extremely lightweight hardware extensions that exploit sparsity and approximate computing to skip computations that are redundant or have little impact on the network’s accuracy.

Key publications with IITM students and faculty:

IEEE/ACM DATE 2019 (best paper award), ACM CODS/COMADS 2019, IEEE TVLSI 2017, ACM/IEEE ISLPED 2017, ACM/IEEE ISLPED 2016.

Winter course on Machine Intelligence and Brain Research

ACHIEVEMENTS

The 2019 winter course on Machine Intelligence and Brain Research in conjunction with the Annual workshop on computational Brain Research was held in the main IC SR auditorium at the IC & SR building, IIT Madras from January 2 to January 9, 2019.

The winter course was offered as a 6 credit course to select IIT Madras students and as a workshop for others. Out of 200 applicants from IIT Madras, the course was offered to 30 students for credit with the rest auditing the course to provide feedback.

In addition, the number of external registrants to the course was 350 which represents the growing popularity of the course. The numbers have increased in both the credit taking students' as well external participants this year.

IMPACT

The course and its associated workshop has had a continuous and growing impact on students from both IITM and outside. The quality of the course has resulted in an increase in the participant numbers compared with previous years.

The course not only provides cutting edge knowledge from the various international experts but also provides a basic hands on experience on the gross anatomy of the brain as well as fundamentals of machine learning through hands on practical and tutorial sessions. The knowledge gained from this short winter course will provide the motivation of many a students and researchers to further improve their interests in machine and biological intelligence.

Gopalakrishnan-Deshpande Centre for Innovation and Entrepreneurship (GDC)

Gopalakrishnan-Deshpande Centre for Innovation and Entrepreneurship (GDC) is an alumni-funded centre at IIT Madras that works with STEM colleges across India to facilitate 'lab to market' transformation by helping faculty, researchers, and students commercialise their deep-tech ideas that have potential to positively impact society and improve people's lives.

GDC's flagship program, I-NCUBATE, helps faculty, research scholars and entrepreneurs commercialise their research for impact and to build scalable and sustainable business ventures.

GDC's vision: Enable India to solve her society's problems by applying the full capabilities of the scientific and technological knowledge of Indian academic institutions through world class innovation and entrepreneurship.

The current programs and activities through which GDC aims to achieve its mission are as follows:

- *Training of Faculty and Researchers at academic institutions for commercialising research outcomes.*
- *Designing capacity building programs and boot camps for budding entrepreneurs.*
  Building capacity of mentors of start-ups to elevate the standards of coaching.
- *Conducting seminars/symposiums to enable better integration of academic research into industry and vice versa.*
- *Working in conjunction with the faculty of STEM colleges for academic courses in the areas of Entrepreneurship Development, Creative thinking, Design Thinking, and Innovation.*
- *Coordinating with other entities of the Deshpande Foundation worldwide in the space of Innovation & Entrepreneurship.*

RESEARCH- ONGOING

- *Total number of participants in I-NCUBATE program: Over 300*
- *Proportion of participating faculty exploring a start-up for the first time:- 30%*
- *Participating institutions: IIT Madras, IIT Bombay, IISc Bengaluru, JIPMER (Puduchery), SP Pune University, KJ Somaiya College (Mumbai), PES University (Bengaluru), and Swinburne University of Technology (Australia).*

EVENTS / SYMPOSIUM:

GDC conducts the annual Deshpande-Gopalakrishnan Symposium on Innovation and Entrepreneurship - a gathering of academicians, entrepreneurs, intrapreneurs, investors and policy-makers who are focused on promoting and accelerating innovation and entrepreneurship across the academic environment.

- *The 1st Deshpande-Gopalakrishnan Symposium on Innovation and Entrepreneurship was held from 28 - 30 January 2018 at IIT Madras.*
- *The 2nd Deshpande-Gopalakrishnan Symposium on Innovation and Entrepreneurship was held from 20 - 22 January 2019 at IIT Bombay.*

GDC conducts the I-NCUBATE program (8-weeks long) regularly throughout the year for selected teams that make up a cohort.

- I-NCUBATE Cohort 1: 17-Mar-18 to 30-Apr-18 conducted at IIT Madras
- I-NCUBATE Cohort 2: 10-Aug-18 to 18-Oct-18 conducted at IIT Madras
- I-NCUBATE Cohort 3: 24-Nov-18 to 20-Jan-19 conducted at IIT Bombay
- I-NCUBATE Cohort 4: 16-Feb-19 to 13-Apr-19 conducted at IIT Madras
- I-NCUBATE Cohort 5: 18-May-19 to 13-Jul-19 conducted at IIT Bombay
- I-NCUBATE Cohort 6: 10-Aug-19 to 05-Oct-19 conducted at IISc Bengaluru (ongoing)

IMPACT

- **Start-up teams that have been part of the I-NCUBATE program have found strong resonance with incubators at IIT Madras, IIT Bombay, IIM Ahmadabad and with angel investors, besides winning several awards.**
- **Proportion of I-NCUBATE teams who have proceeded to incubation so far:- 60%**
- **External funding raised by I-NCUBATE start-ups so far:- Rs 100 million**

FACULTY MEMBERS INVOLVED:

- ***Prof. Krishnan Balasubramaniam***
- ***Prof. R. Nagarajan***
- ***Prof. Ashok Jhunjhunwala***
- ***Prof. Mahesh Panchagnula***
- ***Prof. Ravindra Gettu***

Start-up teams that graduate from the I-NCUBATE program showcase their idea and entrepreneurship journey during a Finale event. This is a public event where we invite dignitaries from academia and industry, entrepreneurs, investors, faculty, and students.

- **Finale I-NCUBATE Cohort 1: 30-Apr-18, held at IIT Madras**
- **Finale I-NCUBATE Cohort 2: 18-Oct-18, held at IIT Madras**
- **Finale I-NCUBATE Cohort 3: 20-Jan-19, held at IIT Bombay**
- **Finale I-NCUBATE Cohort 4: 13-Apr-19, held at IIT Madras**
- **Finale I-NCUBATE Cohort 5: 13-Jul-19, conducted at IIT Bombay**

GDC
Innovate for Impact

JOINT DOCTORAL DEGREE -NTU SINGAPORE:

A Joint doctoral degree programme with two of the prestigious research institutions, IIT Madras and NTU Singapore provides a unique opportunity and international platform to scholars to perform and assess the research work with the utilization of facilities of two of the pioneering institutes.

Moreover, the guidance from two expertise faculties combined together gives an overwhelming and prodigious research experience. Such exposure to cutting edge research is a great motivation and helps in growing self-confidence.

Altogether, this programme gives a promising experience to students with an assured high impact research output.

BENEFICIARY STUDENTS:

Gayathri R (Physics)
Rakhi Agarwal (Applied Mechanics)
Vishnu Priya R (Applied Mechanics)
Vinoth Kumar S (Mechanical Engineering)

Gayathri R – Research update:

Topic : Light-matter interaction in ordered and disordered photonic media and its effective utilization in practical applications.

The current status of research on the topic of light- matter interaction in random media indicates that several aspects of this remain largely as yet-unexplored research area, particularly related to nonlinear optical response and ultrafast processes.

Explorations were done using plasmonic random structures that can offer enhanced nonlinearity and modified scattering modes, with the potential to alter the nature of optical processes within the medium. Materials with tuned morphologies and high surface areas can exhibit ample light-capturing efficiencies. The synthesis, characterization, and spectroscopic studies were carried out in IITM, and further experimental validation and feasibility studies on design of prototype devices related to applications in the area of sensing are being carried out in NTU. The experimental studies have been done using coherent backscattering techniques, random lasing and FDTD simulation techniques on light transport.

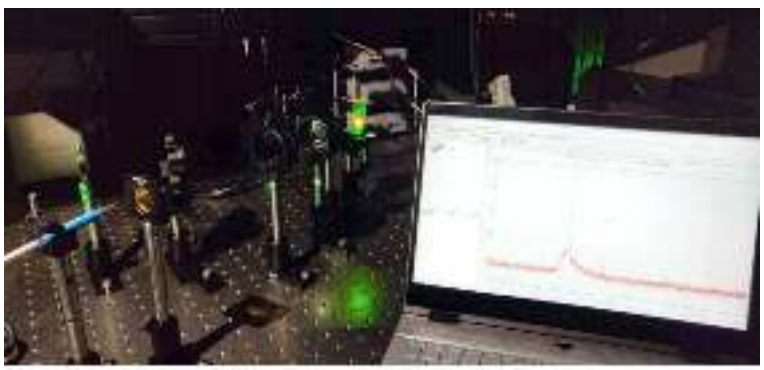
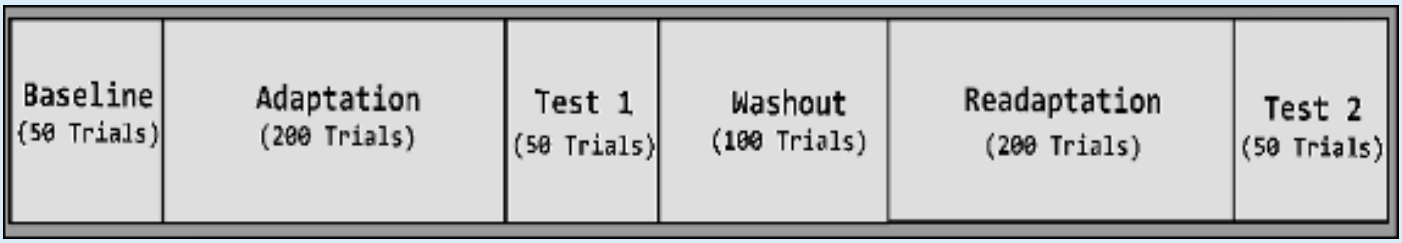


Figure 1. Experimental setup for random lasing and the spectroscopic output

Rakhi Agarwal – Research update:

Topic : The Role of Reward and Punishment on Motor Learning and Adaptation

Ability to learn new motor tasks or relearn previously acquired motor tasks is crucial in successfully performing day-to-day activities in humans. These motor tasks become skills after a substantial amount of practice. The goal of this series of studies is to determine a better strategy to enhance motor learning and adaptation. Results from this study will help us to understand the role of reward and punishment-based feedback on motor learning and adaptation, which in turn will help us to design better motor control and motor learning strategies. These strategies can be used to improve rehabilitation outcome.



Six Phases of each experiment

Vishnu Priya R – Research update:

Topic : Asynchronous brain computer interface based on steady state visual evoked potential and motor imagery for post stroke rehabilitation with visual feedback

Stroke is one of the leading cause of death which is due to interruption or reduced supply of blood to the brain. Over 5 million people are permanently disabled, who needs long term assistance. In order to make them more independent, rehabilitation efforts should be taken which helps the patients to gain or use their lost abilities. Non-invasive Brain Computer Interface (BCI) system using electroencephalogram (EEG) provides alternative pathway to support communication and control of assistive devices for persons with severe motor disabilities. Although Motor Imagery (MI) based BCI systems were used for stroke rehabilitation it requires more training, improved signal processing, high information transfer rate, user comfort and online classification algorithms. Therefore, hybrid BCI based on steady state visual evoked potential (SSVEP) and motor imagery is considered to overcome the above disadvantages.

Research Plan:

	2019 Feb-Mar	2019 Apr-Jun	2019 Jul-Sep	2019 Oct-Dec	2020 Jan-Mar	2020 Apr-Dec	2021 Jan-May
Literature Review							
Experimental Design							
Data Collection							
Analysis of Data							
Validation							
Paper writing							
Thesis							

Vinoth Kumar S – Research update:

Topic : Machining of metal foams used in metallic mirrors.

The objective of this research is :

- *To find the critical thickness(without quilting distortion) of non porous region of 6061 and A356 aluminium alloy foams.*
- *Effects of non porous region thickness on quilting distortion.*
- *Effects of machining conditions (cutting speed and feed) on the quilting deformation.*
- *To find the residual stress on the quilting distortions.*
- *Effects of material property (young's modulus) on quilting deformation of A356 and 6061 aluminium alloy foams.*

Research Plan:

Activities	July-Aug19	Sep-Oct19	Nov-Dec19	Dec 19	Jan-Feb 20	Mar-Apr 20	May-June 20
Diamond turn machining critical thickness measurement							
Residual stress measurements on the quilting distortion							
Non prous region thickness Vs magnitude of the quilting distortion							
Machining conditions Vs magnitude of the quilting distortion							
Material prpoerties Vs magnitude of the quilting distortion							
Simulation of Quilting using ABAQUS and Validation							
Publishing the research work and attending conferences							
Thesis submission							

YFRA Award Supplement:

This award supplement was instituted in order to provide support, in a supplementary manner, to enrich the research activities of the faculties chosen for **"Young Faculty Recognition Award". Prof. Rupesh Nasre**, Dept. of Computer Science and Engineering and his team was provided with the grant to assist his research in various ways. In particular, an MS scholar from the Department of Computer Science and Engineering (Aman Sharma CS15S049) was supported for a year using this grant. In addition, a travel of a PhD scholar (Jyothi Krishna CS13D022) was partially supported by this grant.

ACHIEVEMENTS

- *The MS student published his work in the ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA) 2019 held at Beijing, China during July 2019.*
- *The travel supported for the PhD student allowed him to attend Chapel Workshop held at Orlando, USA during June 2017.*

TRAVEL GRANT

Details of students who received support from Kris Gopalakrishnan Endowment for Student Travel Awards for the year 2019 are as follows:

1. Nauman Dwalatabad (CS14D210): Rs.1.5 Lakhs to present a paper in International Conference on Acoustics, Speech and Signal Processing at Brighton, UK, during 12-17 May, 2019

2. Nada Pulath (CS16S012): Rs.75,000 to present a paper at International Workshop on Graph Theoretic Concepts in Computer Science, at Catalonia, Spain, during 19-21 June, 2019

3. Karthik Pandia (CS14D001): Rs.75,000 to present a paper at Interspeech 2019 conference, at Graz, Austria, during 15-19 September, 2019

We would like to take this opportunity, again, to express our heartfelt gratitude to Shri Kris Gopalakrishnan and Smt. Sudha Gopalakrishnan. Their contributions to IITM has helped the institute grow manifold and explore various roads less travelled in the arena of research and technology. We salute his dedication and commitment to his alma mater. We will always cherish and value the contribution and support extended by Shri Kris and his family to the institute.

For more information, Please contact:
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