

# Monthly Coverage Dossier

## March 2018



### IIT Madras deploys CSR funding in societal projects

Tissa News Services

Indian Institute of Technology (IIT) Madras faculty are researching products and services that can serve humanity. However, the transition from laboratory to actualisation is often a difficult one. The institute has invited the corporate sector under government regulations to partner and contribute in its overall vision for the nation through CSR before March 31, 2018.

Speaking on the importance of CSR funding for research, R Nagarajan, dean (Institutional and Alumni Relations), IIT Madras, said, "Laboratory solu-

tions need to be proven on the ground. Every solution for a critical need—be it in water, in energy, in sanitation, in education, in road use—needs to be researched and developed in an academic setting.

But eventually implement it in societal conditions. It is in this later phase that IIT Madras sees a huge need and opportunity for CSR funding. Business houses from different parts of the country

have come forward as partners to support socially relevant projects at IIT Madras. The institute has received support for its incubation and also for faculty R&D projects with social impact.

The funding obtained through CSR is funnelled into socially relevant projects by IIT Madras faculty across seven sectors, namely, agriculture and farm tech, water technology, education and entrepreneurship, energy, health, environment and heritage.

The projects taken up include a five-year rural electrification project using a solar-DC technology of IIT Madras at an estimated cost of Rs 130 crore; sustainable water and energy management in agricultural activities; urban lake integration for water utilisation and recreation; and an innovative 'C-4' model for high school students.

Industry intervention to support technology and business incubator is likely to promote innovation and job creation.



German President Frank-Walter Steinmeier takes a look at an Autobot at the IIT Madras Research Park in Gandhinagar, TN.

### German prez 'impressed' by IIT startups

The German, who highlighted their startups at the IIT Madras Innovation Cell, gave a demonstration to the German president. Steinmeier said the visit "has opened" up the scope and heeded them for their commercial success and business. Later, Steinmeier visited the IIT Madras Innovation Cell to see the IIT Madras startups. IIT Madras is a member of the IIT network that is part of the IIT network. IIT Madras is a member of the IIT network that is part of the IIT network.

The German president's visit was the first time a German president had visited IIT Madras. Steinmeier was accompanied by a delegation of 12 members and officials of the German government. Steinmeier held a meeting with IIT Madras faculty members and students to discuss the IIT Madras ecosystem and its potential for growth. Steinmeier also visited the IIT Madras Innovation Cell and the IIT Madras Research Park.

### Sugar Residue Can Fuel Tractors, say IIT-M Researchers

They develop method to convert bagasse, a sugar residue, into methanol

Researcher at the Indian Institute of Technology Madras have developed a method to convert bagasse, the waste left after sugar cane has been processed, into methanol. The method involves a two-step process. In the first step, bagasse is converted into a liquid form. In the second step, the liquid is converted into methanol. The method is a significant step towards sustainable energy production. The researchers say that the method can be used to produce methanol for use in various applications, including as a fuel for tractors. The researchers also say that the method is a significant step towards sustainable energy production.



The university is also working on design modifications in existing farm equipment so they can run on methanol.

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**IIT Madras is a campus of  
choice**

Date: 17th March 2018

Publication: Central Chronicle

Edition: Online

Journalist: NA

**Headline: Shirshendu Bharadwaj becomes Campus Director of IIT Madras**

URL: <http://www.centralchronicle.com/shirshendu-bharadwaj-becomes-campus-director-of-iit-madras.html>

### **Shirshendu Bharadwaj becomes Campus Director of IIT Madras**

Shirshendu Bharadwaj, the first man who made program of CAs reach into the stardom has added one more chronicle in his magical spectrum.

While being Ambassador of Ecell IIT Madras, he has been made Campus Director of the same Company for his unbelievable fans and following. In this Avataar, he will take over the empire of ElevateX, the new program of the company.

This funding initiative not only aims to bring eminent startups from all across the nation, but also brings in world class mentors, thus providing a spotlight on the great opportunities for some of the most promising startups of the country.

There are two rounds in Elevate: Preliminary round is the city-meetup round, ElevateX, that aims in bringing the competition directly to the college campuses and co-working spaces across the country. These zonal rounds will serve as an audition round for the startups to bypass prelims and fast-track into the finale.

The final round, Elevate, will offer startups with growth potential, an opportunity to receive valuable mentoring and then pitch live to over 20+ World-Class Mentors, Investors and Judges, networking with like-minded professionals and leading entrepreneurs from across the nation and investment opportunities.

# **IIT Madras is a Multicultural Campus**

Date: 19th March 2018

Publication: DT Next

Edition: Chennai

Page No: 8

Journalist: Mr Sataynarayana

Professor: Prof. R. Nagarajan

**Headline: Scholarships from many overseas univs cheer IIT-M students**

URL: <https://www.dtnext.in/News/City/2018/03/19005923/1065575/Scholarships-from-many-overseas-universities-cheer-.vpf?Tid=112132>

# Scholarships from many overseas univs cheer IIT-M students

**CHENNAI:** International exposure of Indian Institute of Technology (IIT) Madras students has significantly risen with the increase in number of scholarships offered by several universities (especially the Erasmus Mundus grants).

Under the initiative, IIT-Madras was able to send students to several European partner universities.

Accordingly, the number of students going on research to universities abroad increased from mere eight in 2012 to 160 at the end of 2017. Women students going abroad also increased from five to about 40.

Professor R Nagarajan, International and Alumni Relations of IIT Madras, told *DT Next* that the students were paid good stipend too during their visit to foreign countries for undertaking research and internship.

"We will shortlist 15 BTech

and MTech students of six departments. The international exposure will immensely benefit the students to exchange ideas and research work," he added.

The Jonkoping University, Sweden, has offered a summer school at the undergraduate level in Purchasing Logistics in June 2018 with a Global Perspective equivalent to 10 European Credit Transfer and Accumulation System (ECTS) credits. Selected students will have the opportunity to obtain credits and participate in social and cultural activities to discover and learn about Sweden and its culture.

"Similarly, Taiwan has initiated a new scholarship programme called "New South Bound Policy".

The Education Division, Taipei Economic and Cultural Centre, will be the contact window to welcome Indian students to explore Taiwan," he added.

**IIT Madras is an Industry Friendly  
Institute**

Date: 1st March 2018

Publication: Millennium Post

Edition: Delhi/Kolkata

Page no.: 6

Journalist: NA

Professor: Prof. Bhaskar Ramamurti

Headline: IIT Madras ropes in experts for research in Artificial Intelligence

## **IT MADRAS ROPES IN EXPERTS FOR RESEARCH IN ARTIFICIAL INTELLIGENCE**

**CHENNAI:** Indian Institute of Technology Madras signed a joint development agreement on Wednesday with Applied Materials India to conduct research in data sciences, machine learning and artificial intelligence (AI). The industry sectors that can potentially benefit from this initiative are semiconductors, pharma and display. Speaking about the agreement, IIT Madras Director Prof. Bhaskar Ramamurthi said, “We look forward to collaborating with Applied Materials in the fast-expanding field of AI. The IIT Madras is already a leader in this area and bringing the expertise from academics and industry ...for making early breakthroughs in applications.”

Date: 1st March 2018

Publication: The Times of India

Edition: Chennai

Page no.: 4

Journalist: NA

Professor: Prof. Bhaskar Ramamurti

**Headline: IIT-M signs JDA on data sciences research**

## **IIT-M signs JDA on data sciences research**

**Chennai:** IIT-M signed a joint development agreement (JDA) on Wednesday with Applied Materials India to conduct research in data sciences, machine learning and artificial Intelligence.

The industry sectors that can potentially benefit from this initiative are semiconductors, pharma and display. The work that will be carried out under the JDA includes research on using representational neural networks and machine learning methods to combine time-series and images for technology

enabled software solutions, advanced image analysis using novel algorithms based on graphics processors or hybrid compute architectures.

Speaking about the JDA, IIT-M director Bhaskar Ramamurthi said, "We look forward to collaborating with applied materials in the fast-expanding field of AI. IIT-M is already a leader in this area, and bringing the expertise from academics and industry together gives us unique opportunities for making early breakthroughs in applications." TNN



Date: 1st March 2018

Publication: Tech Observer

Edition: Online

Journalist: Krishnamurthy M

Professor: Prof. Bhaskar Ramamurthi

**Headline: IIT Madras signs agreement with Applied Materials for research in Artificial Intelligence**

URL: <https://techobserver.in/education/iit-madras-signs-agreement-applied-materials-research-artificial-intelligence>

### **IIT Madras signs agreement with Applied Materials for research in Artificial Intelligence**

Indian Institute of Technology Madras (IIT Madras) signed a joint development agreement (JDA) with Applied Materials India to conduct research in Data Sciences, Machine Learning and Artificial Intelligence (AI), said a statement. Applied Materials deals in materials engineering solutions that used in producing chip and advanced display. According to tech firm, the industry sectors that can potentially benefit from this initiative are semiconductors, pharma and display.

“We look forward to collaborating with Applied Materials in the fast-expanding field of AI. IIT Madras is already a leader in this area, and bringing the expertise from academics and industry together gives us unique opportunities for making early breakthroughs in applications. IIT Madras strives to stay abreast of developments in technology and welcomes this opportunity to add momentum to its research into AI,” said Prof. Bhaskar Ramamurthi, Director, IIT Madras.

The work that will be carried out under the JDA includes research on using representational neural networks and machine learning methods to combine time-series and images for Technology Enabled Software Solutions (TES), advanced image analysis using novel algorithms based on graphics processors or hybrid compute architectures, and evaluation/investigation of an optimal computational environment to develop advanced big data analytics using devices such as GPUs, CPUs, FPGAs, hybrid clusters and others.

“Materials engineering innovations are key to achieving the new compute models, chip architectures and materials systems needed to realize the potential of Artificial Intelligence. Applied Materials’ collaboration with IIT Madras is focused on the breakthroughs that can accelerate this new era,” said Dr. Om Nalamasu, Senior Vice President and Chief Technology Officer, Applied Materials.

Date: 1st March 2018

Publication: UNI

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi

**Headline: IIT-M inks pact with Applied Materials for research**

URL: <http://www.uniindia.com/iit-m-inks-pact-with-applied-materials-for-research/states/news/1153077.html>

### **IIT-M inks pact with Applied Materials for research**

Chennai, Feb 28 (UNI) Indian Institute of Technology (IIT) Madras on Wednesday signed a Joint Development Agreement (JDA) with Applied Materials India to conduct research in Data Sciences, Machine Learning and Artificial Intelligence (AI). The industry sectors that could potentially benefit from this initiative were Semiconductors, Pharma and Display.

With the current interest and developments in the field of AI, this move would be a step towards taking cutting-edge technology concepts to reality, an IIT-M release here said. Speaking about the agreement, IIT-M Director Prof Bhaskar Ramamurthi said "We look forward to collaborating with Applied Materials in the fast expanding field of AI."

"IIT Madras is already a leader in this area, and bringing the expertise from academics and industry together gives us unique opportunities for making early breakthroughs in applications", he added.

He said the IIT Madras strives to stay abreast of developments in technology and welcomes this opportunity to add momentum to its research into AI.

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'Applied Materials' collaboration with IIT Madras is focused on the breakthroughs that can accelerate this new era, he added.

Applied Materials India, Country President and Managing Director, Srinivas Satya and Dr Om Nalamasu signed the JDA on behalf of Applied Materials India with Industrial Consultancy and Sponsored Research from IIT Madras, Dean, Prof Krishnan Balasubramanian,

Date: 1st March 2018

Publication: BL on Campus

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi

**Headline: IIT Madras to work with Applied Materials for research in AI**

URL: <http://www.bloncampus.com/news-wrap/iit-madras-to-work-with-applied-materials-for-research-in-ai/article10086226.ece>

## **IIT Madras to work with Applied Materials for research in AI**

The research is a part of a joint development agreement in data sciences, machine learning and AI

Indian Institute of Technology Madras signed a Joint Development Agreement (JDA) on February 28 with Applied Materials India to conduct research in Data Sciences, Machine Learning and Artificial Intelligence (AI). The industry sectors that could potentially benefit from this initiative are semiconductors, pharma and display.

SrinivasSatya, Country President and Managing Director, Applied Materials India, and Dr. Om Nalamasu signed the JDA on behalf of Applied Materials India with Prof Krishnan Balasubramanian, Dean, Industrial Consultancy & Sponsored Research from IIT Madras.

Speaking about the agreement, Prof. Bhaskar Ramamurthi, Director, IIT Madras, said, “We look forward to collaborating with Applied Materials in the fast-expanding field of AI. IIT Madras is already a leader in this area and bringing the expertise from academics and industry together gives us unique opportunities for making early breakthroughs in applications. IIT Madras strives to stay abreast of developments in technology and welcomes this opportunity to add momentum to its research into AI.”

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Date: 1st March 2018  
Publication: Ship Insight  
Edition: Online  
Journalist: NA

**Headline: India to promote methanol as shipping fuel**

URL: <https://shipinsight.com/india-promote-methanol-shipping-fuel/>

**India to promote methanol as shipping fuel**

The use of methanol will soon be promoted as a fuel for shipping in the place of diesel, said India's shipping minister Nitin Gadkari.

He said the government has planned to make methanol the fuel for all maritime transport, on account of lesser costs and pollution, compared to diesel. "This could help address the problem of pollution in the shipping industry," he said.

"We are working with lot of new technologies nowadays. We are planning to use methanol as a fuel for all our maritime transport, which is highly cost effective and less polluting in comparison to diesel," IANS quoted him as saying.

"We are making a four multi-modal hub — Varanasi, Haldia, Sagarganj, Sahibganj (across river Ganga) And at 60 river ports, we plan to use methanol as fuel", Gadkari said.

According to a PTI report, he pointed to the example of China, where methanol cost just INR 17 (USD 0.26) per litre. "In China methanol is INR 17 per litre. In India, it costs INR 22 (USD 0.34) per litre, but is equal to one litre of diesel, which is INR 60 (USD 0.93) today. Compared to diesel there is very less pollution (from methanol) also".

Methanol, which costs Rs 22 per litre now, can be manufactured in India at lower cost, but new technology was needed for the initiative, Nitin Gadkari said. "For that we need technical assistance. That is one of the reasons today for the formation of National Technology Centre for Ports, Waterways and Coasts is very very important. It can give us good technology of international standards and it can save costs", he said.

He said his Ministry was working with lot of new technologies nowadays, while laying the foundation stone for setting up a National Technology Centre for Ports, Waterways and Coasts (NTCPWC) at IIT-Madras in Chennai.

According to a UNI report, the NTCPWC, supported by the Sagarmala project, would work to modernise India's ports and fast track waterways and it would be a strategic and innovation-oriented initiative tasked with bringing in cutting-edge technology to India's Ports, waterways and maritime Sector.

Date: 1st March 2018

Publication: Ship Technology

Edition: Online

Journalist: NA

**Headline: India to establish new technology centre for maritime sector**

URL: <https://www.ship-technology.com/news/india-establish-new-technology-centre-maritime-sector/>

### **India to establish new technology centre for maritime sector**

The Government of India's Ministry of Shipping is set to establish a new technology centre at the Indian Institutes of Technology (IIT) Chennai to serve the ports and maritime sector.

A memorandum of understanding (MoU) has been signed between the Ministry and IIT officials to build the Rs705.3m (\$8m) facility, which will be known as the National Technology Centre for Ports, NTCPWC is set to be developed under the Ministry of Shipping's Sagarmala programme, and will function as a technology arm of the ministry.

It is anticipated to provide engineering and technological inputs, as well as support the development of ports, the Inland Waterways Authority of India and other institutions.

"Envisioned as a world-class, state-of-the-art centre, NTCPWC will be a hub for latest technology tools and reduce our dependence on foreign institutions."

NTCPWC will be designed to conduct applied research in different fields such as 2D and 3D modelling of ocean, coastal and estuarine flows.

Other projected fields include sediment transport and morphodynamics, navigation and manoeuvring, dredging and siltation, port and coastal engineering-structures, and breakwaters.

In addition, the site is expected to facilitate the 2D / 3D modelling of autonomous platforms and vehicles, as well as experimental and CFD modelling of flow and hull interaction.

Research into the hydrodynamics of multiple hulls and ocean renewable energy will be carried out by NTCPWC.

Ministry of Shipping said in a statement: "Envisioned as a world-class, state-of-the-art centre, NTCPWC will be a hub for latest technology tools and reduce our dependence on foreign institutions.

"It will also reduce the cost of research drastically and result in cost and time savings for work in the port and maritime sector."

The completed NTCPWC facility will be used to develop indigenous software and technology, and frame technical guidelines and standards, as well as address port and maritime issues with models and simulations.

It will also work towards the successful commercialisation of new technologies.

Investment in the construction of the centre will be shared by the Ministry of Shipping, the Inland Waterways Authority of India (IWAI) and several of the country's major ports.

The Ministry of Shipping's grant will be spent to build facilities such as the Field Research Facility (FRF), Sedimentation and Erosion Management Test Basin and Ship / Tow Simulator.

NTCPWC is expected to become self-sustainable within three years of operation by conducting industry consultancy projects for the Indian and global port and maritime sectors.

Date: 1st March 2018

Publication: Hellenic Shipping News

Edition: Online

Journalist: NA

**Headline: India: Methanol to be promoted as shipping fuel**

URL: <http://www.hellenicshippingnews.com/india-methanol-to-be-promoted-as-shipping-fuel/>

### **India: Methanol to be promoted as shipping fuel**

The use of methanol will soon be promoted as a fuel for shipping in the place of diesel, which could help address the problem of pollution in the shipping industry, Union Minister of Shipping and Waterways NitinGadkari said here on Monday.

Speaking at an event at Indian Institute of Technology, Madras (IIT-M), where he laid the foundation stone for a national technology centre to modernise India's ports and fast track waterways, he said that NitiAayog had already undertaken research on methanol and further technological research from institutions, such as IIT-M, on this could help ensure that India manufactured its own methanol for industrial use.

"The role of ports is crucial for the development of our country," he said. Highlighting how the shipping industry registered increasing profits since the time the BJP government came to power in 2014, he added, "This year, we are expecting profits up to ₹7000 crore."Sagarmala project

Detailing the progress made on the Sagarmala programme to modernise ports in India, he said the project is expecting investments up to ₹15 lakh crore, out of which ₹4 lakh crore had been generated thus far.

"Work on the project worth ₹2,80,000crore has already started. We are devising port-led development in project areas by developing Special Economic Zones, Coastal Development Zones and various industrial clusters. In Mumbai alone, one SEZ is expecting ₹ 40,000 crore and jobs for over one lakh people," he said.

The Centre has provided ₹70 crore to IIT-M towards the setting up of the technology centre to provide technological assistance in taking the projects forward.

IIT-M Director Bhaskar Ramamurthy said the technology centre would come up in the Thaiyur campus where land had been provided by the State government.

"The Centre will be involved in cutting-edge research on topics such as coastal restoration, bridge simulation and testing, etc that would help expand the capability of the ocean engineering department," he said.

Sagarmala joint secretary Kailash K. Aggarwal said 500 projects had been identified under the programme till now. To a query from The Hindu on whether any mitigating measures had been envisaged with respect to the Enayam port project proposed under Sagarmala due to the recent

cyclone-led devastation and resistance to the project from local communities, Mr. Aggarwal said Tamil Nadu Chief Minister had already raised the matter at a meeting with Mr. Gadkari and that the matter would be deliberated upon at a meeting in the coming days in New Delhi.



Date: 2nd March 2018

Publication: India Today

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi & Prof. Krishnan Balasubramanian

**Headline: IIT-Madras, Applied Materials India to take up research in AI**

URL: <https://www.indiatoday.in/pti-feed/story/iit-madras-applied-materials-india-to-take-up-research-in-ai-1180057-2018-03-01>

### **IIT-Madras, Applied Materials India to take up research in AI**

Chennai, Mar 1(PTI) Indian Institute of Technology, Madras has signed a joint development agreement with Applied Materials India to conduct research in Data Sciences, Machine learning and Artificial Intelligence. "We look forward to collaborating with Applied Materials in the fast-expanding field of AI. IIT Madras is already a leader in this area and bringing the expertise from academics and industry gives us unique opportunities..," IIT Madras, Director, Bhaskar Ramamurthi said in a statement here. IIT Madras strives to stay ahead of developments in technology and welcomes this opportunity to add momentum in research into AI, he said. Some of the works that would be taken up as part of the agreement include research on using representational neural networks, machine learning methods, images for technology enabled software solutions and advanced image analysis. Applied Materials India, Country President and Managing Director, SrinivasSatya exchanged documents with IIT Madras, Industrial Consultancy and Sponsored Research, Dean, Krishnan Balasubramanian at a function here recently. "For more than a decade, Applied Materials and IIT have been working together to advance the semi-conductor ecosystem in India. We are excited to build upon this success," Satyasaid.PTI VIJ ROH

Date: 2nd March 2018

Publication: News Bytes

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi & Prof. Krishnan Balasubramanian

**Headline: IIT-Madras, Applied Materials India to conduct joint-research in Artificial Intelligence**

URL: <https://www.newsbytesapp.com/timeline/Science/16934/83725/iit-madras-applied-materials-india-sign-join-research-agreement>

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"We look forward to collaborating with Applied Materials in the fast-expanding field of AI. IIT-Madras is already a leader in this area and bringing the expertise from academics and industry gives us unique opportunities," said IIT-Madras Director, Bhaskar Ramamurthi.

IIT Madras strives to stay ahead of developments in technology and welcomes this opportunity to add momentum in research into Artificial Intelligence, Director Bhaskar Ramamurthi said.

Some of the works that would be taken up as part of the agreement include research on using representational neural networks, machine learning methods, images for technology-enabled software solutions, and advanced image analysis.

### **IIT-Madras, Applied Materials already working together on semiconductor ecosystem**

Applied Materials India's Country President and Managing Director, SrinivasSatya, exchanged the agreement-related documents with the Dean of IIT Madras's Industrial Consultancy and Sponsored Research, Krishnan Balasubramanian, at a function recently.

"For more than a decade, Applied Materials and IIT have been working together to advance the semiconductor ecosystem in India. We are excited to build upon this success," Satya said.

Date: 2nd March 2018

Publication: The Economic Times

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi & Prof. Krishnan Balasubramanian

**Headline: IIT-Madras, Applied Materials India to take up research in Artificial Intelligence**

URL: <https://economictimes.indiatimes.com/tech/internet/iit-madras-applied-materials-india-to-take-up-research-in-artificial-intelligence/articleshow/63125257.cms>

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Date: 2nd March 2018

Publication: News Today

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi

**Headline: IIT-M inks pact with AMI**

URL: <https://www.newstodaynet.com/index.php/2018/03/01/iit-m-inks-pact-with-ami/>

### **IIT-M inks pact with AMI**

Chennai: To explore more in the field of Artificial Intelligence (AI), the Indian Institute of Technology Madras (IIT-M) signed a Joint Development Agreement (JDA) with Applied Materials India (AMI) to conduct research, where many industry sectors like semiconductors and pharma can benefit.

Speaking about the agreement, IIT-M Director Bhaskar Ramamurthi said, "We look forward to collaborating with AMI in the fast-expanding field of AI. IIT-M is already a leader in this area, and bringing the expertise from academics and industry together gives us unique opportunities for making early breakthroughs in applications. IIT-M strives to stay abreast of developments in technology and welcomes this opportunity to add momentum to its research into AI."

The work that will be carried out under the JDA includes research on using representational neural networks and machine learning methods to combine time-series and images for Technology-Enabled Software Solutions (TES), advanced image analysis using novel algorithms based on graphics processors or hybrid compute architectures, and evaluation/investigation of an optimal computational environment to develop advanced big data analytics using devices such as GPUs, CPUs, FPGAs, hybrid clusters and others, a press release said.

Date: 2nd March 2018

Publication: Business Standard

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi & Prof. Krishnan Balasubramanian

**Headline: IIT-Madras, Applied Materials India to take up research in AI**

URL: [http://www.business-standard.com/article/pti-stories/iit-madras-applied-materials-india-to-take-up-research-in-ai-118030100416\\_1.html](http://www.business-standard.com/article/pti-stories/iit-madras-applied-materials-india-to-take-up-research-in-ai-118030100416_1.html)

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Date: 2nd March 2018

Publication: The Hindu Business Line

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi & Prof. Krishnan Balasubramanian

**Headline: IIT-Madras, Applied Materials India to take up research in AI**

URL: <https://www.thehindubusinessline.com/info-tech/iit-madras-applied-materials-india-to-take-up-research-in-artificial-intelligence/article22891434.ece>

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“For more than a decade, Applied Materials and IIT have been working together to advance the semi-conductor ecosystem in India. We are excited to build upon this success,” Satya said.

Date: 2nd March 2018

Publication: ET CIO

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi & Prof. Krishnan Balasubramanian

**Headline: IIT-Madras, Applied Materials India to take up research in Artificial Intelligence**

URL: <https://cio.economictimes.indiatimes.com/news/government-policy/iit-madras-applied-materials-india-to-take-up-research-in-artificial-intelligence/63133571>

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Date: 2nd March 2018

Publication: The Hans India

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi & Prof. Krishnan Balasubramanian

**Headline: IIT-Madras, Applied Materials India to take up research in AI**

URL: <http://www.thehansindia.com/posts/index/Young-Hans/2018-03-02/IIT-Madras-Applied-Materials-India-to-take-up-research-in-AI/362661>

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Date: 2nd March 2018

Publication: Business Today

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi & Prof. Krishnan Balasubramanian

**Headline: IIT-Madras, Applied Materials India to take up research in AI**

URL: <https://www.businesstoday.in/pti-feed/iit-madras-applied-materials-india-to-take-up-research-in-ai/story/271722.html>

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Date: 2nd March 2018

Publication: ET Tech

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi & Prof. Krishnan Balasubramanian

**Headline: IIT-Madras, Applied Materials India to take up research in Artificial Intelligence**

URL: <https://tech.economictimes.indiatimes.com/news/corporate/iit-madras-applied-materials-india-to-take-up-research-in-artificial-intelligence/63126506>

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"For more than a decade, Applied Materials and IIT have been working together to advance the semiconductor ecosystem in India. We are excited to build upon this success," Satya said.

Date: 2nd March 2018

Publication: DNA

Edition: Delhi

Page no.: 10

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi & Prof. Krishnan Balasubramanian

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Date: 2nd March 2018

Publication: The Economic Times

Edition: Hyderabad/Chennai

Page no.: 8

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi & Prof. Krishnan Balasubramanian

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Date: 2nd March 2018

Publication: The Hans India

Edition: Hyderabad

Page no.: 14

Journalist: NA

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Date: 2nd March 2018

Publication: News Today

Edition: Chennai

Page no.: 3

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi

**Headline: Taking artificial intelligence to new high**

URL: <https://www.newstodaynet.com/index.php/2018/03/01/iit-m-inks-pact-with-ami/>

# Taking artificial intelligence to new high

## □ IIT-M inks pact with AMI to conduct research

**NT Bureau**

Chennai, Mar 1: To explore more in the field of Artificial Intelligence (AI), the Indian Institute of Technology Madras (IIT-M) signed a Joint Development Agreement (JDA) with Applied Materials India (AMI) to conduct research, where many industry sectors like semiconductors and pharma can benefit.

Speaking about the agreement, IIT-M Director Bhaskar Ramamurthi said, 'We look forward to collaborating with AMI in the fast-expanding field

of AI. IIT-M is already a leader in this area, and bringing the expertise from academics and industry together gives us unique opportunities for making early breakthroughs in applications. IIT-M strives to stay abreast of developments in technology and welcomes this opportunity to add momentum to its research into AI.'

The work that will be carried out under the JDA includes research on using representational neural networks and machine learning methods to com-



*IIT-M Director Bhaskar Ramamurthi with dignitaries during the signing of joint development agreement with Applied Materials India in Chennai on Wednesday.*

bine time-series and images for Technology-Enabled Software Solutions (TES), advanced image

analysis using novel algorithms based on graphics processors or hybrid compute architectures, and

### What is AI?

Artificial intelligence is intelligence demonstrated by machines, in contrast to the natural intelligence (NI) displayed by humans and other animals. In computer science, AI research is defined as the study of 'intelligent agents'.

Any device that perceives its environment and takes actions that maximise its chance of successfully achieving its goals. Colloquially, the term 'artificial intelligence' is applied when a machine mimics 'cognitive' functions that humans associate with other human minds, such as 'learning' and 'problem solving'.

evaluation/investigation of an optimal computational environment to develop advanced big data analyt-

tics using devices such as GPUs, CPUs, FPGAs, hybrid clusters and others, a press release said.

Date: 5th March 2018

Publication: The Times of India- Education Times

Edition: Delhi

Page no.: 3

Journalist: NA

**Headline: Joint Agreement**



## **JOINT AGREEMENT**

IIT Madras signed a Joint Development Agreement (JDA) recently with Applied Materials India to conduct research in data sciences, machine learning and artificial intelligence.

Date: 5th March 2018

Publication: The Times of India- Education Times

Edition: Delhi

Page no.: 2

Journalist: NA

**Headline: Modernising ports**

# Modernising ports

**TIMES NEWS NETWORK**

Union shipping minister Nitin Gadkari launched a technology centre at IIT Madras to modernise India's ports and fast track waterways. The National Technology Centre for Ports, Waterways and Coasts (NTCPWC) will be a centre for technological innovations and will function as the technology arm of the ministry of shipping. NTCPWC will be a strategic and innovation-oriented initiative tasked with bringing cutting-edge technology to India's ports, waterways and maritime sector.

Being built with a Capex of Rs 44.79 crore



and Opex of Rs 25.74 crore, the NTCPWC will create capital equipment, capable manpower and build competencies to work on 10 major projects for the first three years. The thrust areas would be technology development, modelling and software products, bridge simulator and testing facilities.



Date: 5th March 2018

Publication: The Financial Express

Edition: Delhi/Mumbai/Pune/Bangalore/Hyderabad/Chennai/Kolkata/Kochi/Ahmedabad

Page no.: 11

Journalist: NA

**Headline: Profits from major ports to touch Rs. 7,000 crore: Gadkari**

## **Profits from major ports to touch ₹7,000 crore: Gadkari**

PROFITS FROM THE 12 major ports were expected to touch ₹7,000 crore this year, up from ₹3,000 crore in 2014, Shipping Minister Nitin Gadkari said last Monday. He made the comment after the foundation-stone laying ceremony for the National Technology Centre for Ports, Waterways and Coasts (NTCPWC) at IIT Madras. NTCPWC, an offshoot of the Sagarmala programme, will act as a technology arm of the ministry, providing engineering and technological inputs and support for ports, Inland Waterways Authority of India and other institutions.

Date: 6th March 2018

Publication: Analytics India

Edition: Online

Journalist: JeevanBiswas

**Headline: IIT Madras Joins Hands With Applied Materials India For Research In AI**

URL: <https://analyticsindiamag.com/iit-madras-applied-materials-agreement-research-ai/>

## **IIT Madras Joins Hands With Applied Materials India For Research In AI**

Adding to its list of strategic agreements with the industry to boost academic and research activities, the Indian Institute of Technology Madras (IITM) has inked a joint development agreement (JDA) with Applied Materials India to carry out research in artificial intelligence, machine learning and data Sciences.

The agreement was signed by Krishnan Balasubramanian, dean, Industrial Consultancy and Sponsored Research, IITM, and SrinivasSatya, country president and managing director at Applied Materials India. The industrial areas that can gain from this understanding include pharmaceuticals and semiconductors. “We look forward to collaborating with Applied Materials in the fast-expanding field of AI. IIT Madras is already a leader in this area and bringing the expertise from academics and industry gives us unique opportunities,” said Bhaskar Ramamurthi, Director at IITM

The work expected to be carried out under the JDA includes images for technology enabled software solutions (TES), machine learning methods, advanced image analysis and use of representational neural networks.

Highlighting the importance of innovations in materials engineering on improving the potential of AI, Dr Om Nalamasu, senior vice president and chief technology officer, Applied Materials, said, “Materials engineering innovations are key to achieving the new compute models, chip architectures and materials systems needed to realise the potential of Artificial Intelligence. Applied Materials’ collaboration with IIT Madras is focused on the breakthroughs that can accelerate this new era.”

This agreement joins the list of strategic partnerships forged by IITM with industries and the government in 2018. In February, it was reported that IITM, along with National Programme on Technology Enhanced Learning (NPTEL), was working with the glass industry to develop MOOCHs aspiring civil engineers and architects to raise awareness on effective use of glass in construction. In the same month, IITM entered into a memorandum of agreement (MoA) with the Union Shipping Ministry to establish the National Technology Centre for Ports, Waterways and Coasts (NTCPWC), which under the Central Government’s Sagarmala project, aims at modernising Indian Ports.

Date: 6th March 2018

Publication: The Hindu

Edition: Bangalore

Page no.: 2

Journalist: TanuKulkarni

**Headline: IIMB and IIT set to merge technology and management education**

URL: <http://www.thehindu.com/news/cities/bangalore/iimb-and-iit-set-to-merge-technology-and-management-education/article22939452.ece>

## IIMB and IIT set to merge technology and management education

The 10-month programme, for those with work experience of three years or more, will look to combine inputs from research and industry

TANU KULKARNI  
BANGALORE

The Indian Institute of Management, Bangalore (IIMB) and the Indian Institute of Technology (IIT), Madras have joined hands to offer a unique Certificate Programme in Technology and Management.

So far, they have piqued the interest of hundreds of working professionals. While majority of them are

from India, there are a few from countries such as Nepal, Burma, Bangladesh, Singapore and Malaysia.

The programme is for those who have work experience of three years or more, but it is also open to IIMB and IIT Madras students.

The 10-month programme, which includes learning of cross-functional technical and business skills,

comprises online courses and 12 campus-connect sessions in each institute over three modules, delivered by faculty of both institutes. There will also be offline discussion forums, case studies, seminars, and interviews with industry professionals so that students can stay abreast of industry trends.

P.S. Jose, Chair, IIMB Digital Learning Initiatives, and

faculty in the Strategy area at IIMB, said 15 eminent faculty members from IIMB and IIT Madras would teach and mentor the students. Learning from faculty from both institutes, combining inputs from research and industry, will help the students acquire and apply application-oriented

perspectives at work, he said.

Courses from the manage-

ment discipline will empower students with a 360-degree view of all management aspects, while technical courses will expose them to relevant data science and computing technologies, helping them to become well-rounded professionals, Prof. Jose added.

### Ten courses

The programme will consist of 10 courses across manage-

ment and engineering disciplines. Prof. Jose said students have a choice of picking one of two technology streams for specialisation: data sciences or computer science. They have to complete these 10 courses spread across three modules. "In each module, the learner will have the opportunity to experience the

IITM and IIMB classrooms through campus connect

sessions. During these day-long sessions, the students will interact with faculty for case study and project discussions," he said.

Prof. Andrew [Hangara] of IIT Madras said, "IITM, as leading technical institutes, will offer courses in Data Analytics, Cloud Computing, and Machine Learning."

Registrations are open in March, and admissions and enrollments will begin later.

Date: 7th March 2018

Publication: Trade Briefs

Edition: Online

Journalist: NA

**Headline: IIT Madras Joins Hands With Applied Materials India For Research In AI**

URL: <https://www.tradebriefs.com/index.php?id=600619:Software>

### **IIT-Madras, Applied Materials India to take up research in AI**

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Date: 7th March 2018

Publication: Criticism News

Edition: Online

Journalist: Ashok Gupta

**Headline: IIM Bengaluru and IIT Madras join hands to combine technology and management education**

URL: <https://criticismnews.com/news/education/iim-bengaluru-iit-madras-join-hands-combine-technology-management-education-8937.html>

### **IIT JAM 2019 Application Form, Notification, Apply Online Registration**

Indian Institute of Technology – IIT JAM 2019 Application Form, Notification, Apply Online Registration Last Date, Written Exam Date, Admit Card, Answer Key, Result. Previous Year Info – Indian Institute of Technology, Bombay (the conducting body of Joint Admission Test 2018) has announced the IIT JAM 2018 Notification according to which the application form filling procedure would be started from 5th September. IITB will organise the registrations only through by online mode. Students can go for the application forms using the administrative forum for the exam, i.e. [www.jam.iitb.ac.in](http://www.jam.iitb.ac.in).

The data available on the notification states that the IIT JAM 2018 exam would be a computer based online test which will be held in two sessions on 11th February (Sunday) 2018.

The first session would be conducted from 09:00 am to 12:00 noon for four subjects, given here with subject codes – Biotechnology (BT), Geology (GG) Mathematical Statistics (MS) and Chemistry (CY). Candidates will have to attend the second phase from 02:00 pm to 05:00 pm for subjects – Physics (PH), Biological Sciences (BL) and Mathematics (MA). The exam schedule will not be modified under any conditions.

Date: 11th March 2018

Publication:UNI

Edition: Online

Journalist: NA

**Headline: Thales, IIT-M inks pact for Ph D fellowship prog**

URL: <http://www.uniindia.com/thales-iit-m-inks-pact-for-ph-d-fellowship-prog/states/news/1163599.html>

### **Thales, IIT-M inks pact for Ph D fellowship prog**

Chennai, Mar 10 (UNI) Thales and the Indian Institute of Technology-Madras on Saturday signed a Memorandum of Understanding (MoU) to create a jointly supervised Ph.D fellowship programme in coordination with CNRS.

Thales and IIT-M look forward to strengthening Indo-French scientific collaboration, while contributing towards the development of highly specialised technical skills in India, an official release here said.

The MoU was exchanged in the presence of Union HRD Minister PrakashJavadekar and MrFrédérique Vidal, Minister of Higher Education, Research and Innovation, Government of France, at the Knowledge Summit.

Thales already has similar agreements for jointly supervised PhDs with leading institutions like Indian Institute of Science (IISc) Bangalore, IIT Bombay and IIT Delhi.

These agreements underline Thales' research focus and collaborations with academia to create technologies for smarter and faster decision making for problem solving in complex situations.

Speaking at the event, Emmanuel de Roquefeuil, Vice President and Country Director, Thales in India said, "as a global technology leader, we are always excited about investing in the future through varied initiatives focused on research and engineering."

"Given this focus, IIT Madras is a natural partner and we are very proud of this association. We believe it will serve our common objective of fostering a strong Indo-French research ecosystem and also support the Skill India initiative of the Indian government", Emmanuel said.

IIT-M Director Prof Bhaskar Ramamurthi said "we greatly value this partnership with Thales as our students will benefit from access to world class research environments and guidance from highly capable academics and researchers."

"It is these partnerships, which not only help develop technologies for tomorrow, but also bring industry and academia closer. IIT Madras has earlier entered into joint Ph.D. degree agreements with University of Bordeaux and ÉcoleCentrale de Nantes in France. This partnership with Thales will facilitate these collaborative research programs", he added.

DrSrinivasKaveri, Director, CNRS in India, said, partnerships like this would help strengthen Indo-French relations, promote cultural diversity and enable sharing of ideas between Indian and French researchers. This unique programme would bring together shared minds to foster innovations and technologies for tomorrow, he added.

The students selected for the jointly supervised Ph.D fellowships would have an Indian supervisor and a French co-supervisor (from one of the identified CNRS laboratories).

Selected students from IIT-Madras would have the opportunity to conduct a part of their research projects in France in areas like electromagnetism and antennas simulation and modelling, airborne complex system engineering, artificial Intelligence and data management systems, advanced electronics systems and nanotechnologies.

Date: 11th March 2018

Publication: Domain b

Edition: Online

Journalist: NA

**Headline: Thales signs pact with IIT Madras for joint PhD fellowship programmes**

URL: [http://www.domain-b.com/companies/companies\\_t/thales/20180310\\_programmes.html](http://www.domain-b.com/companies/companies_t/thales/20180310_programmes.html)

### **Thales signs pact with IIT Madras for joint PhD fellowship programmes**

Coinciding with the visit of French President Emmanuel Macron, French aerospace and defence giant Thales signed a memorandum of understanding with the Indian Institute of Technology Madras (IIT Madras) on Saturday to create a jointly supervised PhD fellowship programme in coordination with Centre National de Recherche Scientifique (CNRS).

Thales already has similar agreements for jointly supervised PhDs with Indian Institute of Science (IISc) Bangalore, IIT Bombay and IIT Delhi.

Speaking at the ceremony, Emmanuel de Roquefeuil, vice president and country director, Thales in India said, "As a global technology leader, we are always excited about investing in the future through varied initiatives focused on research and engineering. Given this focus, IIT Madras is a natural partner and we are very proud of this association. We believe it will serve our common objective of fostering a strong Indo-French research ecosystem and also support the Skill India initiative of the Indian government."

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Partnering with top universities worldwide is an important aspect of innovation for Thales which created joint projects with over 50 prestigious universities and research laboratories worldwide. Journal 'Nature'



ranks Thales among the 100 leading companies for high-quality science worldwide. The Group also ranks among the world's 100 most innovative companies by Clarivate Analytics.

Date: 11th March 2018

Publication: Bio Spectrum

Edition: Online

Journalist: NA

**Headline: IIT-M, Thales sign pact for PhD programmes**

URL: <https://www.biospectrumindia.com/news/68/10579/iit-m-thales-sign-pact-for-phd-programmes.html>

### **IIT-M, Thales sign pact for PhD programmes**

Thales and IIT-M look forward to strengthening Indo-French scientific collaboration, while contributing towards the development of highly specialised technical skills in India.

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Date: 11th March 2018

Publication: Web India 123

Edition: Online

Journalist:NA

**Headline: Thales, IIT-M inks pact for Ph.D fellowship prog**

URL: <https://news.webindia123.com/news/articles/India/20180310/3295237.html>

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IIT-M Director Prof Bhaskar Ramamurthi said "we greatly value this partnership with Thales as our students will benefit from access to world class research environments and guidance from highly capable academics and researchers." "It is these partnerships, which not only help develop technologies for tomorrow, but also bring industry and academia closer. IIT Madras has earlier entered into joint Ph.D. degree agreements with University of Bordeaux and coleCentrale de Nantes in France. This partnership with Thales will facilitate these collaborative research programs", he added.

Dr Srinivas Kaveri, Director, CNRS in India, said, partnerships like this would help strengthen Indo-French relations, promote cultural diversity and enable sharing of ideas between Indian and French researchers. This unique programme would bring together shared minds to foster innovations and technologies for tomorrow, he added. The students selected for the jointly supervised Ph.D fellowships would have an Indian supervisor and a French co-supervisor (from one of the identified CNRS laboratories). Selected students from IIT-Madras would have the opportunity to conduct a part of their research projects in

France in areas like electromagnetism and antennas simulation and modelling, airborne complex system engineering, artificial Intelligence and data management systems, advanced electronics systems and nanotechnologies.

Partnering with top universities worldwide is an important aspect of innovation for Thales which created joint projects with over 50 prestigious universities and research laboratories worldwide. Journal 'Nature' ranks Thales among the 100 leading companies for high-quality science worldwide. The Group also ranks among the world's 100 most innovative companies by Clarivate Analytics.

Date: 12th March 2018

Publication: India Education Diary

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi

**Headline: Thales and Indian Institute of Technology Madras sign Memorandum of Understanding**

URL:<http://indiaeducationdiary.in/thales-indian-institute-technology-madras-sign-memorandum-understanding/>

### **Thales and Indian Institute of Technology Madras sign Memorandum of Understanding**

Chennai: Thales and the Indian Institute of Technology Madras (IIT Madras) today signed a Memorandum of Understanding (MoU) to create a jointly supervised PhD fellowship programme in coordination with CNRS. Thales and IIT Madras look forward to strengthening Indo-French scientific collaboration while contributing towards the development of highly specialised technical skills in India. The MoU exchange ceremony took place in the presence of MrPrakashJavadekar, honourable Minister of Human Resource Development, Government of India, and H.E. Frédérique Vidal, Minister of Higher Education, Research and Innovation, Government of France, at The Knowledge Summit.

Thales already has similar agreements for jointly supervised PhDs with prestigious institutions like Indian Institute of Science (IISc) Bangalore, IIT Bombay and IIT Delhi. These agreements underline Thales' research focus and collaborations with academia to create technologies for smarter and faster decision making for problem solving in complex situations.

Speaking at the ceremony, Emmanuel de Roquefeuil, Vice President & Country Director, Thales in India said, "As a global technology leader, we are always excited about investing in the future through varied initiatives focused on research and engineering. Given this focus, IIT Madras is a natural partner and we are very proud of this association. We believe it will serve our common objective of fostering a strong Indo-French research ecosystem and also support the Skill India initiative of the Indian government."

Prof. Bhaskar Ramamurthi, Director, IIT Madras, said, "We greatly value this partnership with Thales as our students will benefit from access to world class research environments and guidance from highly capable academics and researchers. It is these partnerships which not only help develop technologies for tomorrow but also bring industry and academia closer. IIT Madras has earlier entered into joint Ph.D. degree agreements with University of Bordeaux and ÉcoleCentrale de Nantes in France. This partnership with Thales will facilitate these collaborative research programs."

Dr. SrinivasKaveri, Director, CNRS in India, said, "Partnerships like these help strengthen Indo-French relations, promote cultural diversity and enable sharing of ideas between Indian and French researchers. This unique programme will bring together shared minds to foster innovations and technologies for tomorrow."

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Date: 12th March 2018

Publication: Business Wire India

Edition: Online

Journalist: NA

Professor: Prof G. Raghuram

**Headline: Mahindra Transport Excellence Lifetime Achievement Award for IIMB Director Professor G. Raghuram**

URL: <https://businesswireindia.com/news/fulldetails/mahindra-transport-excellence-lifetime-achievement-award-iimb-director-professor-g-raghuram/57380>

### **Mahindra Transport Excellence Lifetime Achievement Award for IIMB Director Professor G. Raghuram**

Professor G. Raghuram, Director, Indian Institute of Management Bangalore, has been honoured for Lifetime Achievement by the Mahindra Transport Excellence Awards 2017, supported by the Ministry of Road Transport and Highways in India.

The Lifetime Achievement Award recognises Professor Raghuram's body of work on the Transport sector in India and lauds him for "decades of outperformance, dedication and generous contribution towards the betterment of the Indian transport industry."

The award was presented to Professor Raghuram in New Delhi on March 7 (Tuesday).

It is for the first time since its inception in 2015 that the Mahindra Transport Excellence Lifetime Achievement Award is being conferred on an academician. The earlier recipients include Shri R. Thyagarajan, Founder Chairman, Shriram Group, and Shri D.P. Agarwal, Vice-Chairman and Managing Director, TCI Ltd.

Responding to the announcement of the Lifetime Achievement Award, Professor Raghuram said, "I am humbled and honoured. As a multinational auto maker, Mahindra & Mahindra Ltd. is one of India's most admired companies. That they, in collaboration with the Ministry of Road Transport and Highways, are taking the transport ecosystem development to the next level by honouring individuals and institutions with awards for their critical roles in the transport industry in India is commendable."

"The Mahindra Transport Excellence Lifetime Achievement Award recognises Excellence, Innovation and Change Leadership in the Transport Ecosystem by recognizing efforts towards accepting no limits, alternative thinking and driving positive change," said a communique from the Awards Committee.

Professor G. Raghuram has a PhD from Northwestern University, USA, a Postgraduate Diploma in Management (PGDM) from IIM Ahmedabad and a BTech degree from IIT Madras. He specializes in infrastructure and transport systems, and logistics and supply chain management.

He conducts research on the railway, port, shipping, aviation and road sectors. He has published over 35 refereed papers in journals and written over 155 case studies. He has published six co-authored books, one such book's enhanced edition was released during the awards ceremony on Tuesday.

Professor Raghuram is a member of the Global Future Council on Mobility of the World Economic Forum, Executive Council of the National Aviation University, and of the Board of Directors of six companies in the fields of infrastructure, logistics and education. Overall, he has been on the Board of 12 companies. He has offered consultancy services to over 100 organizations, including multilateral agencies.

He has served on various government policy making and advisory committees for the Ministry of Civil Aviation, Ministry of Consumer Affairs and Public Distribution, Ministry of Railways, Ministry of Road Transport and Highways, Ministry of Shipping, Cabinet Secretariat, Comptroller and Auditor General, the Planning Commission and various State Governments.



Date: 12th March 2018

Publication: The Times of India (clip attached)

Edition: Delhi

Page No: 1

Journalist: NA

Headline: Fellowship



## FELLOWSHIP

Indian Institute of Technology Madras (IIT), Madras signed a Memorandum of Understanding (MoU) with Thales, French MNC, to create a jointly-supervised PhD fellowship programme in coordination with CNRS — the French national center for scientific research. Selected fellows will conduct a part of their research projects in France and have an Indian and a French co-supervisor.

Date: 12th March 2018

Publication: Trinity Mirror

Edition: Chennai

Page No: 7

Journalist: NA

**Headline: Thales and Indian Institute of Technology Madras sign Memorandum of Understanding**

## **Thales, IIT(M) sign MoU for PhD fellowship programme**

Chennai, Mar 11: Thales and the Indian Institute of Technology Madras (IIT Madras) today signed a Memorandum of Understanding (MoU) to create a jointly supervised PhD fellowship programme in coordination with CNRS. Thales and IIT Madras look forward to strengthening Indo-French scientific collaboration while contributing towards the development of highly specialised technical skills in India.

The MoU exchange ceremony took place in the presence of Prakash Javadekar, Minister of Human Resource Development, Government of India, and Frédérique Vidal, Minister of Higher Education, Research and Innovation, Government of France, at The Knowledge Summit.

Emmanuel de Roquefeuil, Vice President & Country Director, Thales in India said, "As a global technology

leader, we are always excited about investing in the future through varied initiatives focused on research and engineering. Given this focus, IIT Madras is a natural partner and we are very proud of this association. We believe it will serve our common objective of fostering a strong Indo-French research ecosystem and also support the Skill India initiative of the Indian government."

Prof. Bhaskar Ramamurthi, Director, IIT Madras, said, "It is these partnerships which not only help develop technologies for tomorrow but also bring industry and academia closer. IIT Madras has earlier entered into joint Ph.D. degree agreements with University of Bordeaux and École Centrale de Nantes in France. This partnership with Thales will facilitate these collaborative research programs."

Date: 13th March 2018

Publication: The Hindu

Edition: Chennai

Page No: 4

Journalist: NA

Professor: Prof. R. Nagarajan

**Headline: IIT-M seeks CSR funds**

URL: <http://www.thehindu.com/news/cities/chennai/iit-m-seeks-csr-funds/article23165945.ece>

# IIT-M seeks CSR funds

## 'Big support needed to continue research work'

**SPECIAL CORRESPONDENT**  
CHENNAI

The Indian Institute of Technology - Madras has called for companies to contribute from their corporate social responsibility (CSR) fund for research and development work.

The CSR funds received so far by the institute had helped it enable electrification of rural homes; improve the supply chain and marketing for farmers and producer organisations and integrating urban lakes for efficient water use.

R. Nagarajan, Dean, In-

ternational and Alumni Relations, said for the institute to continue its research and offer efficient solutions it needed the support of industry.

The institute carried out its research and develops solutions in academic settings but the solutions must be implemented in the community. "It is in this latter phase that IIT Madras sees a huge need and opportunity for CSR funding," he said.

The institute has been receiving financial support from various compa-

nies in sectors such as agriculture and farm technology; water technology; education and entrepreneurship, energy, health, environment and heritage.

The faculty and students have so far taken up a three-year water and waste management in a village near Chennai; been involved in developing free online courses for the National Programme on Technology Enhanced Learning (NPTEL); and are conducting research on the influence of orthotic and prosthetic devices.

Date: 13th March 2018

Publication: India.Com

Edition: Online

Journalist: NA

Professor: Prof. R. Nagarajan

**Headline: IIT-Madras Invites Corporate Funding, Via CSR**

URL: <http://www.india.com/education/iit-m-invites-corporate-funding-thru-csr-2939304/>

### **IIT-Madras Invites Corporate Funding, Via CSR**

New Delhi, Mar 12: Indian Institute of Technology Madras today invited corporate sector to partner to its initiative of start-up vision through corporate social responsibility.

“IIT Madras invites corporate sector to partner and contribute to the Institute start-up vision for the Nation through CSR before March 31, 2018”, a press release said.

“Laboratory solutions need to be proven on the ground.

Every solution for a critical need – be it in water, in energy, in sanitation, in land needs to be researched and developed in academic setting..”, IIT Madras, Dean, International and Alumni Relations, professor R Nagarajan said.

Social entrepreneurship is another front where CSR funding can make a significant impact, he said.

The funds obtained through CSR would be “funnelled” into various sectors including agriculture and farm technology, education and entrepreneurship, energy, health.

Date: 13th March 2018

Publication: The Hans India

Edition: Online

Journalist: NA

Professor: Prof. R. Nagarajan

**Headline: IIT-Madras Invites Corporate Funding, Via CSR**

URL: <http://www.thehansindia.com/posts/index/Young-Hans/2018-03-13/IT-M-invites-corporate-funding-thru-CSR/365768>

### **IIT-M invites corporate funding thru' CSR**

Chennai: Indian Institute of Technology Madras on Monday invited corporate sector to partner to its initiative of start-up vision through corporate social responsibility. "IIT Madras invites corporate sector to partner and contribute to the Institute start-up vision for the Nation through CSR before March 31, 2018", a press release said. "Laboratory solutions need to be proven on the ground.

Every solution for a critical need - be it in water, in energy, in sanitation, in land needs to be researched and developed in academic setting..", IIT Madras, Dean, International and Alumni Relations, professor R Nagarajan said. Social entrepreneurship is another front where CSR funding can make a significant impact, he said.

Date: 13th March 2018

Publication: India Today

Edition: Online

Journalist: NA

Professor: Prof. R. Nagarajan

**Headline: IIT-M invites corporate funding thru CSR**

URL: <https://www.indiatoday.in/pti-feed/story/iit-m-invites-corporate-funding-thru-csr-1187807-2018-03-12>

### **IIT-M invites corporate funding thru CSR**

Chennai, Mar 12 (PTI) Indian Institute of Technology Madras today invited corporate sector to partner to its initiative of start-up vision through corporate social responsibility. "IIT Madras invites corporate sector to partner and contribute to the Institute start-up vision for the Nation through CSR before March 31, 2018", a press release said. "Laboratory solutions need to be proven on the ground.

Every solution for a critical need - be it in water, in energy, in sanitation, in land needs to be researched and developed in academic setting..", IIT Madras, Dean, International and Alumni Relations, professor R Nagarajan said. Social entrepreneurship is another front where CSR funding can make a significant impact, he said. The funds obtained through CSR would be "funneled" into various sectors including agriculture and farm technology, education and entrepreneurship, energy, health.

Date: 13th March 2018

Publication: Business Standard

Edition: Online

Journalist: NA

Professor: Prof. R. Nagarajan

**Headline: IIT-M invites corporate funding thru' CSR**

URL: [http://www.business-standard.com/article/pti-stories/iit-m-invites-corporate-funding-thru-csr-118031200865\\_1.html](http://www.business-standard.com/article/pti-stories/iit-m-invites-corporate-funding-thru-csr-118031200865_1.html)

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Date: 13th March 2018

Publication: DT Next

Edition: Chennai

Page No: 4

Journalist: NA

Professor: Prof. R. Nagarajan

**Headline: IIT-M seeks corporate support for its start-up initiative**

URL: <https://www.dtnext.in/News/Citizen/2018/03/13022746/1064885/IITM-seeks-corporate-support-for-its-startup-initiative.vpf>

## IIT-M seeks corp support for its start-up initiative

**CHENNAI:** The Indian Institute of Technology-Madras (IIT-M) has urged the corporate sector to contribute to the institute's start-up vision for the nation through Corporate Social Responsibility (CSR) under government regulations.

Professor R Nagarajan, Dean, International and Alumni Relations, the funding obtained through CSR is funnelled into socially relevant projects in agriculture and farm technology, water technology, education and entrepreneurship and energy by IIT-M faculty.

"Laboratory solutions need to be proven on the ground. Every solution for a critical need — be it in water, in energy, in sanitation, in education, in land use — needs to be researched and developed in an academic setting, but eventually implemented in needful



communities." Prof. R. Nagarajan, Dean (International and Alumni Relations), IIT-M, said. "It is in this latter phase that IIT-M sees a huge need and opportunity for CSR funding," he added.

Social entrepreneurship is another front where CSR funding can make a significant impact, he said. While support from the Centre in sustaining this process is crucial, the role of the corporate sector cannot be overstated,

the professor added. The Companies Act, 2013, provides an ideal route for the latter through the CSR.

The projects taken up include rural electrification project using a Solar-DC technology of IIT-M. This is a five-year project being taken up at an estimated cost of Rs 135 cr. Sustainable water and energy management in agricultural activities and bridging the gaps in supply chain and marketing of farmers/producer organisations and urban lake integration for water utilisation and recreation.

Stating that business houses from different parts of the country have come forward as partners to support socially relevant projects at IIT-M using their CSR budget, Nagarajan said the institute has received support for its incubators and also for faculty R & D projects with social impact.



Date: 13th March 2018

Publication: Deccan Chronicle Edition: Chennai

Page No: 4

Journalist: NA

Professor: Prof. R. Nagarajan

**Headline: IIT-M invites corporate funding through CSR**

**SHORT TAKES**

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“Laboratory solutions need to be proven on the ground. Every solution for a critical need - be it in water, in energy, in sanitation, in land needs to be researched and developed in academic setting..”, IIT Madras, Dean, International and Alumni Relations, professor R Nagarajan said.

Social entrepreneurship is another front where CSR funding can make a significant impact, he said.

The funds obtained through CSR would be “funnelled” into various sectors including agriculture and farm technology, education and entrepreneurship, energy, health.

Date: 13th March 2018

Publication: Outlook

Edition: Online

Journalist: NA

Professor: Prof. R. Nagarajan

**Headline: IIT-M invites corporate funding thru' CSR**

URL: <https://www.outlookindia.com/newscroll/iitm-invites-corporate-funding-thru-csr/1269700>

### **IIT-M invites corporate funding thru' CSR**

Chennai, Mar 12 Indian Institute of Technology Madras today invited corporate sector to partner to its initiative of start-up vision through corporate social responsibility.

"IIT Madras invites corporate sector to partner and contribute to the Institute start-up vision for the Nation through CSR before March 31, 2018", a press release said.

"Laboratory solutions need to be proven on the ground. Every solution for a critical need - be it in water, in energy, in sanitation, in land needs to be researched and developed in academic setting..", IIT Madras, Dean, International and Alumni Relations, professor R Nagarajan said.

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Date: 13th March 2018

Publication: The Times of India

Edition: Online

Journalist: NA

**Headline: IIMB and IIT Madras offer 10-month certification for working professionals**

URL: <https://timesofindia.indiatimes.com/home/education/news/iimb-and-iit-madras-offer-10-month-certification-for-working-professionals/articleshow/63265238.cms>

### **IIMB and IIT Madras offer 10-month certification for working professionals**

The Indian Institute of Management, Bangalore (IIMB) and the Indian Institute of Technology (IIT), Madras, have collaborated to offer a certificate programme in technology and management.

"While the programme is not a substitute for an MBA or a BTech, it covers most of the core courses covered in a general MBA programme. It is aimed at giving young students and working professionals with two-five years of experience an understanding of the recent developments in technology and management.

It will be useful for those unable to take two years off for a regular in-campus programme," said PD Jose, programme director, and faculty in the strategy area at IIM Bangalore.

The 10-month programme comprises of 10 courses in management and engineering disciplines and 12 campus-connect sessions in each institute over three modules, delivered by the faculty.

Since inter-disciplinary skills are the need of the hour, this certification will be a great value-addition. On successful completion of the programme, students will receive a certificate.

The programme seeks for a work experience of three years or more, and is also open to IIMB and IIT Madras students. Registrations have opened in March, and enrolments will begin soon after.

Date: 13th March 2018

Publication: The Economic Times

Edition: Online

Journalist: AnandiChandrashekhar,

**Headline: Thales and Indian Institute of Technology Madras sign Memorandum of Understanding**

URL: <https://economictimes.indiatimes.com/industry/services/education/thales-and-indian-institute-of-technology-madras-sign-memorandum-of-understanding/articleshow/63272551.cms>

## **Thales and Indian Institute of Technology Madras sign Memorandum of Understanding**

CHENNAI: Thales and the Indian Institute of Technology Madras (IIT Madras) have signed a Memorandum of Understanding (MoU) to create a jointly supervised PhD fellowship programme in coordination with The National Center for Scientific Research (CNRS). The MoU signing took place in the presence of, PrakashJavadekar, Union minister, Human Resource Development and H.E. Frédérique Vidal, Minister of Higher Education, Research and Innovation, Government of France.

Selected students from IIT Madras will conduct a part of their research projects in France in areas like electromagnetism and antennas simulation and modelling, airborne complex system engineering, artificial Intelligence and data management systems, and advanced electronics systems and nanotechnologies. The students selected for the jointly supervised PhD fellowships will have an Indian supervisor and a French co-supervisor (from one of the identified CNRS laboratories).

Thales already has similar agreements for jointly supervised PhDs with Indian Institute of Science (IISc) Bangalore, IIT Bombay and IIT Delhi. Emmanuel de Roquefeuil, Vice President & Country Director, Thales in India said, "As a global technology leader, we are always excited about investing in the future through varied initiatives focused on research and engineering. Given this focus, IIT Madras is a natural partner and we are very proud of this association. We believe it will serve our common objective of fostering a strong Indo-French research ecosystem and also support the Skill India initiative of the Indian government."

Bhaskar Ramamurthi, Director, IIT Madras, said, "We greatly value this partnership with Thales as our students will benefit from access to world class research environments and guidance from highly capable academics and researchers. IIT Madras has earlier entered into joint Ph.D. degree agreements with University of Bordeaux and ÉcoleCentrale de Nantes in France. This partnership with Thales will facilitate these collaborative research programs."

Date: 14th March 2018

Publication: Kavimalar

Edition: Online

Journalist: NA

Professor: Prof R Nagarajan and Mr. Joseph Thomas

**Headline:**

**IIT-M invites corporate funding thru' CSR-**

URL: <http://kalvimalar.dinamalar.com/news-details.asp?id=27658&cat=1>

**IIT-M invites corporate funding thru' CSR-**

Chennai : Indian Institute of Technology Madras today invited corporate sector to partner to its initiative of start-up vision through corporate social responsibility.

"IIT Madras invites corporate sector to partner and contribute to the Institute start-up vision for the Nation through CSR before March 31, 2018", a press release said.

"Laboratory solutions need to be proven on the ground. Every solution for a critical need - be it in water, in energy, in sanitation, in land needs to be researched and developed in academic setting..", IIT Madras, Dean, International and Alumni Relations, professor R Nagarajan said.

Social entrepreneurship is another front where CSR funding can make a significant impact, he said.

The funds obtained through CSR would be "funnelled" into various sectors including agriculture and farm technology, education and entrepreneurship, energy, health.

Date: 14th March 2018

Publication: Skill Outlook

Edition: Online

Journalist: NA

Professor: Prof R Nagarajan

**Headline: IIT Madras deploys CSR funding to great effect in societal projects, R&D and incubators Institute welcomes fresh contributions for this fiscal year towards funding transformational work**

URL: <http://skilloutlook.com/alert/iit-madras-deploys-csr-funding-to-great-effect-in-societal-projects-rd-and-incubators-institute-welcomes-fresh-contributions-for-this-fiscal-year-towards-funding-transformational-work>

**IIT Madras deploys CSR funding to great effect in societal projects, R&D and incubators Institute welcomes fresh contributions for this fiscal year towards funding transformational work**

Chennai: Indian Institute of Technology Madras faculty are researching transformational products and services that can serve humanity in ways not even thought of as yet. However, the translation from laboratory to actualization is frequently a difficult one.

IIT Madras invites the corporate sector to partner and contribute to the Institute start-up vision for the nation through CSR before the 31st March 2018 deadline for corporates under Government Regulations. Speaking on the importance of CSR funding for Research, Prof. R. Nagarajan, Dean (International and Alumni Relations), IIT Madras, said, "Laboratory solutions need to be proven on the ground. Every solution for a critical need — be it in water, in energy, in sanitation, in education, in land use — needs to be researched and developed in an academic setting, but eventually implemented in needful communities."

"It is in this latter phase that IIT Madras sees a huge need and opportunity for CSR funding," added Prof. Nagarajan.

Social entrepreneurship is another front where CSR funding can make a significant impact. While support from Government in sustaining this process is crucial, the role of the corporate sector cannot be overstated, and the Companies Act, 2013 provides an ideal route for the latter through the Corporate Social Responsibility (CSR) channel.

Business houses from different parts of the country have come forward as partners to support socially relevant projects at IIT Madras using their Corporate Social Responsibility (CSR) budget. IIT Madras has received support for its Incubators and also for faculty R & D projects with social impact.

The funding obtained through CSR is funnelled into socially relevant projects by IIT Madras faculty. They're spread across seven sectors, namely

Agriculture and Farm Tech, Water technology, Education and Entrepreneurship, Energy, Health Environment, Heritage

The projects taken up include

Rural electrification project using a Solar-DC technology of IIT Madras. This is a five year project being taken up at an estimated cost of Rs. 135 cr.

Sustainable water and energy management in agricultural activities and Bridging the Gaps in Supply Chain and Marketing of Farmers/Producer Organisations Urban Lake Integration for Water Utilization and Recreation, An Innovative 'C-4' Model for High School Student Mr. Joseph Thomas, Vice President (Development, Development Office), IIT Madras Alumni Charitable Trust, International and Alumni Relations office, said, "We still need industry to understand that supporting a Technology and Business Incubator promotes innovation and job creation."

The Bangalore-based Titan Company Limited, AMEX, Goldman Sachs, Chennai-headquartered Cholamandalam Investments and Finance Company Limited, and others have both provided support to the IIT Madras incubators that are recognised by Government of India.

Indian Additives Limited, Chennai, has supported water and waste management work in a nearby village a few kilometres away from their base of operation. This 3 year project was carried out by a team of Professors and students from IIT Madras.

Pune-based Aricent have partnered with IIT Madras National Programme on Technology Enhanced Learning (NPTEL). The CSR support has been given to create free online course material, enable transcription into vernacular of some courses and support examination fees of deserving candidates. Around 56,000 students have benefited from the scholarship. Other companies are now coming forward to support NPTEL.

The TTK Group having its Corporate Office in Bangalore has supported the "TTK Center for Rehabilitation Research and Device Development (R2D2)". The Centre conducts research related to human movement, the influence of orthotic and prosthetic devices on human movement, and the design and development of mechanisms, products and assistive devices for people with impairments. Additional support for this group has been provided by the Wellcome Trust for the specific development of a standing wheelchair.

Date: 14th March 2018


Publication: Dinamani

Edition: Chennai

Journalist: NA

Page No: 4

Headline: Inauguration of CoE at IIT Madras (Engagements)



## இன்றைய நிகழ்ச்சிகள்

### பொது

ஐஐடி சென்னை, டெக்கின் பல்கலைக் கழகம்- நவீன பொருள்கள் மற்றும் உற்பத்தி தொடர்பான ஆராய்ச்சி மைய தொடக்க விழா: ஆஸ்திரேலிய வர்த்தக அமைச்சர் பிலிப் டாலிடக்கிஸ், ஐஐடி சென்னை இயக்குநர் பாஸ்கர் ராமமூர்த்தி உள்ளிட்டோர் பங்கேற்பு, ஐஐடி சென்னை ஆராய்ச்சிப் பூங்கா, தரமணி, காலை 11.

இந்தியன் வங்கி-தலித் இந்திய தொழில் வர்த்தக சபை புரிந்துணர்வு ஒப்பந்தம்: நிர்வாக இயக்குநர் கிஷோர் காரத், மிலிந்த் ப்ரல்ஹாத் காம்பளே உள்ளிட்டோர் பங்கேற்பு, இந்தியன் வங்கி தலைமை அலுவலகம், அவ்வை சண்முகம் சாலை, ராயப்பேட்டை, மாலை 4.

அரசுக் கலை மற்றும் அறிவியல் கல்லூரி, பெரும்பாக்கம்- தமிழ் மன்ற விழா: சி.ஜோதிவெங்கடேசுவரன், பா.இரவிக்குமார் உள்ளிட்டோர் பங்கேற்பு, கல்லூரி வளாகம், பெரும்பாக்கம், காலை 10.30.

தமிழ்நாடு சுற்றுலா விருது வழங்கும் விழா: பி.சுசீலா, ஆய்க்குடி எஸ். ராமகிருஷ்ணன், பாலம் கல்யாணசுந்தரம், எஸ்.பி.முத்துராமன், சஞ்சய் பூர்வதஸ், பி.எச். அப்துல் ஹமீது உள்ளிட்டோர் பங்கேற்பு, , காமராஜ் அரங்கம், தேனாம்பேட்டை, பிற்பகல் 2.30.



Date: 14th March 2018

Publication: The Times of India

Edition: Chennai

Page No: 5

Journalist: NA

Headline: **Bilateral centre of excellence**

**Bilateral centre of excellence:** Indian Institute of Technology Madras and Deakin University, Australia, will inaugurate India's first Bilateral Centre of Excellence in Advanced Materials and Manufacturing at IIT Madras Research Park at 11 am on Wednesday. Philip Dalidakis, minister for trade and innovation, Victoria, Australia, will inaugurate the centre.

Date: 15th March 2018

Publication: India Education Diary

Edition: Online

Journalist: NA

Professor: Prof. R. Nagarajan

**Headline: IIT Madras deploys CSR funding to great effect in societal projects, R&D and incubators**

URL: <http://indiaeducationdiary.in/iit-madras-deploys-csr-funding-great-effect-societal-projects-rd-incubators/>

### **IIT Madras deploys CSR funding to great effect in societal projects, R&D and incubators**

Chennai: Indian Institute of Technology Madras faculty are researching transformational products and services that can serve humanity in ways not even thought of as yet. However, the translation from laboratory to actualization is frequently a difficult one.

IIT Madras invites the corporate sector to partner and contribute to the Institute start-up vision for the nation through CSR before the 31st March 2018 deadline for corporates under Government Regulations.

Speaking on the importance of CSR funding for Research, Prof. R. Nagarajan, Dean (International and Alumni Relations), IIT Madras, said, "Laboratory solutions need to be proven on the ground. Every solution for a critical need — be it in water, in energy, in sanitation, in education, in land use — needs to be researched and developed in an academic setting, but eventually implemented in needful communities."

"It is in this latter phase that IIT Madras sees a huge need and opportunity for CSR funding," added Prof. Nagarajan.

Social entrepreneurship is another front where CSR funding can make a significant impact. While support from Government in sustaining this process is crucial, the role of the corporate sector cannot be overstated, and the Companies Act, 2013 provides an ideal route for the latter through the Corporate Social Responsibility (CSR) channel.

Business houses from different parts of the country have come forward as partners to support socially relevant projects at IIT Madras using their Corporate Social Responsibility (CSR) budget. IIT Madras has received support for its Incubators and also for faculty R & D projects with social impact.

The funding obtained through CSR is funnelled into socially relevant projects by IIT Madras faculty. They're spread across seven sectors, namely

Ø Agriculture and Farm Tech

Ø Water technology

Ø Education and Entrepreneurship

Ø Energy

Ø Health

Ø Environment

Ø Heritage

The projects taken up include

- Rural electrification project using a Solar-DC technology of IIT Madras. This is a five year project being taken up at an estimated cost of Rs. 135 cr.
- Sustainable water and energy management in agricultural activities and Bridging the Gaps in Supply Chain and Marketing of Farmers/Producer Organisations
- Urban Lake Integration for Water Utilization and Recreation,
- An Innovative 'C-4' Model for High School Student

Mr. Joseph Thomas, Vice President (Development, Development Office), IIT Madras Alumni Charitable Trust, International and Alumni Relations office, said, "We still need industry to understand that supporting a Technology and Business Incubator promotes innovation and job creation."

The Bangalore-based Titan Company Limited, AMEX, Goldman Sachs, Chennai-headquartered Cholamandalam Investments and Finance Company Limited, and others have both provided support to the IIT Madras incubators that are recognised by Government of India.

Indian Additives Limited, Chennai, has supported water and waste management work in a nearby village a few kilometres away from their base of operation. This 3 year project was carried out by a team of Professors and students from IIT Madras.

Pune-based Aricent have partnered with IIT Madras National Programme on Technology Enhanced Learning (NPTEL). The CSR support has been given to create free online course material, enable transcription into vernacular of some courses and support examination fees of deserving candidates. Around 56,000 students have benefited from the scholarship. Other companies are now coming forward to support NPTEL.

The TTK Group having its Corporate Office in Bangalore has supported the "TTK Center for Rehabilitation Research and Device Development (R2D2)". The Centre conducts research related to human movement, the influence of orthotic and prosthetic devices on human movement, and the design and development of mechanisms, products and assistive devices for people with impairments. Additional support for this group has been provided by the Wellcome Trust for the specific development of a standing wheelchair.

Date: 19th March 2018

Publication: Telangana Today

Edition: Online

Journalist: NA

Professor: Prof. R. Nagarajan

**Headline: IIT-M invites corporate funding**

URL: <https://telanganatoday.com/iit-m-invites-corporate-funding>

### **IIT-M invites corporate funding**

"IIT Madras invites corporate sector to partner and contribute to the Institute start-up vision for the Nation through CSR before March 31, 2018", a press release said.

Chennai: Indian Institute of Technology Madras has invited corporate sector to partner to its initiative of start-up vision through corporate social responsibility.

"IIT Madras invites corporate sector to partner and contribute to the Institute start-up vision for the Nation through CSR before March 31, 2018", a press release said. "Laboratory solutions need to be proven on the ground. Every solution for a critical need – be it in water, in energy, in sanitation, in land needs to be researched and developed in academic setting," IIT Madras, Dean, International and Alumni Relations, Professor R Nagarajan said.

Social entrepreneurship is another front where CSR funding can make a significant impact, he said. The funds obtained through CSR would be "funnelled" into various sectors including agriculture and farm technology, education and entrepreneurship, energy, health. PTI

Date: 26th March 2018

Publication: The Hindu

Edition: Chennai

Page No: 5

Journalist: NA

Professor: Prof Bhaskar Ramamurthi

**Headline: German President visits Daimler plant, IIT-Madras**

URL: <http://www.thehindu.com/news/national/tamil-nadu/german-president-visits-daimler-plant-iit-madras/article23350633.ece>

## German President visits Daimler plant, IIT-Madras

STAFF REPORTER  
KANCHI/PURAM

German President Frank-Walter Steinmeier on Sunday visited the manufacturing plant of Daimler India Commercial Vehicles (DICV) in Oragadam here. He was

received by the Managing Director & CEO Erich Nesselhauf and his team, which gave the visiting delegation an insight into truck production and the company's vocational training programmes inspired by the

German model. Daimler's subsidiary DICV has been active in the Indian market since 2012 and has delivered more than 60,000 vehicles to Indian customers under its BharatBenz brand, according to a release.

In Chennai, Mr. Steinmeier also visited the research park of the Indian Institute of Technology-Madras. The IIT-M was established with German assistance in 1959. IIT-M director Bhaskar Ra-

mamurthi said the German influence was instrumental in the strong collaboration the IIT-M has had developed with industry from the early years, culminating in the country's first university-based research park.

Date: 26th March 2018

Publication: Dinamani

Edition: Chennai

Page No: 16

Journalist: NA

Headline: German President has darshan at Mylapore temple; visits IIT Madras as well

URL: <https://goo.gl/JAPWYc>

**மயிலாபபூரூ கோயிலில்  
ஜெர்மனி அதிபர் தரிசனம்**

**ஐஐடி வளாகத்தையும் பார்வையிட்டார்**



சென்னை விமான நிலையத்தில் ஞாயிற்றுக்கிழமை ஜெர்மனி அதிபர் பிராங்க்வால்டர் ஸ்டீன்மேயர், அவரது மனைவி எஸ்கேபுடன் பெண்டர் ஆரியோனர வரவேற்ற மீள்வனத் துறை அமைச்சர் டி.ஜெயகுமார்.

சென்னை, மார்ச் 25: சென்னையில் பல்வேறு நிகழ்ச்சிகளில் பங்கேற்க வந்த சென்னை ஜெர்மனி அதிபர், மயிலாபபூர் கூபாலீஸ்வரர் கோயிலில் ஞாயிற்றுக்கிழமை சாமி தரிசனம் செய்தார். மேலும், சென்னை ஐஐடி ஆராய்ச்சிப் பூங்காவையும் அவர் பார்வையிட்டார். பல்வேறு நிகழ்ச்சிகளில் பங்கேற்பதற்காக ஜெர்மனி அதிபர் பிராங்க்வால்டர் ஸ்டீன்மேயரும் அவரது மனைவி எஸ்கேபுடும் பெண்டரும் ஞாயிற்றுக்கிழமை சென்னை வந்தனர். விமான நிலையத்தில் அவர்களை மீள்வனம், பஸியானர் மற்றும் திரிவாக்சு கீர்தி ரூக்கித் துறை அமைச்சர் டி.ஜெயக்குமார் மலர்க்கொத்து கொடுத்து வரவேற்றார்.

பல்வேறு நிகழ்ச்சிகள் சென்னையில் பிரசித்தி பெற்ற மயிலாபபூர் கூபாலீஸ்வரர் கோயிலுக்கு ஜெர்மனி அதிபரும் அவரது மனைவியும் சென்றனர். அங்கு சாமி தரிசனம் செய்த அவர்களுக்கு திருக்கோயில் சார்பில் மரியாதை அளிக்கப்பட்டது. இதன்மூலம், சென்னை ஐஐடி யில் உண் ஆராய்ச்சிப் பூங்காவை ஜெர்மனி அதிபர் பார்வையிட்டார்.

இதுதொடர்த்து, சென்னை ஐஐடி வெளியிட்ட செய்தி: இந்தியத் தொழில்நுட்ப அமைப்புகளில் முதலாவதாக தேர்நிறுவப்பட்ட சென்னை ஐஐடி ஜெர்மனின் உதவியுடன் 1959 ஆண்டில் உருவாக்கப்பட்டது. இப்போது நாட்டிலேயே பங்கலைக்கொடுத்தால் இயக்கப்படும் முதல் ஆராய்ச்சிப் பூங்கா இங்கு அமைக்கப்பட்டு பல்வேறு புதிய தொழில்நுட்பங்களும் ஆராய்ச்சிகளும் மேற்கொள்ளப்பட்டு வருகின்றன.

இந்த நிலையில் சென்னை வந்த ஜெர்மனி அதிபர், அந்த நாட்டின் உதவியுடன் உருவாக்கப்பட்ட சென்னை ஐஐடி ஆராய்ச்சிப் பூங்காவை பார்வையிட்ட விருப்பம் ஞாயிற்றுக்கிழமை வந்தார். ஆராய்ச்சிப் பூங்காவையும் பார்வையிட்ட அவர், இளம் தொழில் முனைவோர், ஆராய்ச்சியாளர்கள் மற்றும் ஆசிரியர்களைக் கலந்திருக்க உணர்வாயினர். மேலும், அந்த உருவாக்கப்பட்ட புதிய அமைப்புகளையும் பார்வையிட்டார்.

அவருடன் ஜெர்மனி துறை மாநிலம் தே ஜெர்மனுக்கான இந்தியத் துறை முக்தா கத்தா டோயர் ஜெர்மன் வெளிநாட்டு அலுவலகத் துக்கான மாநிலம் செவ்வர் ஸ்டீன்மேயர் ஸ்டீன்மேயர் உள்விட உள்விட டோயர் உடனிருந்தனர் எனத் தெரிவிக்கப்பட்டுள்ளது.

Date: 26th March 2018

Publication: Dinamalar

Edition: Chennai

Page No: 14

Journalist: NA

Professor: Prof Bhaskar Ramamurthi & Prof. RavindraGettu

Headline: German President in IIT Madras

## ‘சென்னை ஐ.ஐ.டி.,யில் ஜெர்மனி அதிபர்’

சென்னை, மார்ச் 26-  
ஜெர்மனி நாட்டின்  
அதிபர், ப்ராங்க் வால்டர்,  
உயர் தொழில்நுட்ப கல்வி  
நிறுவனமான, சென்னை,  
ஐ.ஐ.டி., ஆராய்ச்சி பூங்  
காவில், மாணவர்களின்  
தொழில்நுட்ப ஆராய்ச்சி  
களை பார்வையிட்டு,  
பாராட்டினார்.

சென்னை, ஐ.ஐ.டி.,யும்,  
ஜெர்மனி உயர் கல்வி  
நிறுவனங்களும், ஒப்பந்  
தங்கள் செய்துள்ளன.  
அதன்படி, இரு தரப்பு  
மாணவர்களும், ஆராய்ச்சி  
படிப்புகளில் ஈடுபட்டு  
உள்ளனர்.

இந்நிலையில், மாணவர்  
களின் ஆராய்ச்சி நட

வடிக்கைகளை பார்வை  
யிட, ப்ராங்க் வால்டர்,  
நேற்று, சென்னை,  
ஐ.ஐ.டி.,க்கு வருகை தந்தார்.

ஐ.ஐ.டி., இயக்குனர்,  
பாஸ்கர் ராமமூர்த்தி,  
தொழில் ஆலோசனை மற்  
றும் ஆராய்ச்சிப் பிரிவு, இன்  
ரவீந்திர கித்து, ஆராய்ச்சி  
பூங்காவின் தலைமை  
இயக்க அதிகாரி, ராஜேந்  
திர மூத்தா மற்றும் சிறப்பு  
செயல் அதிகாரி, தாமாஷ்  
வதி கோஷ் ஆகியோர்,  
அவரை வரவேற்றனர்.

இளம் தொழில் முனை  
வோர், ஆராய்ச்சியாளர்கள்  
மற்றும் ஆசிரியர்களுடன்,  
ஜெர்மனி அதிபர் கலந்து  
ரையாடினார். மாணவர்



■ சென்னை, ஐ.ஐ.டி., ஆராய்ச்சி பூங்காவில்,  
மாணவர்களின் ஆராய்ச்சிகளை, ஜெர்மனி அதிபர்  
ப்ராங்க் வால்டர் பார்வையிட்டார்.

களின், புதுமையான  
கண்டுபிடிப்புகளை பார்  
வையிட்டு, சாதனை  
செயல்களை பாராட்டினார்.  
இந்தியாவிற்கான ஜெர்

மனி தூதர், மார்ட்டின் நே,  
ஜெர்மனி நாட்டிற்கான,  
இந்திய தூதர், முக்தா தத்தா  
டோமர் உள்ளிட்டோர்  
நிகழ்ச்சியில் பங்கேற்றனர்.

Date: 26th March 2018

Publication: Dinakaran

Edition: Online

Journalist: NA

**Headline: German President come to Chennai on a two-day visit**

URL: [http://www.dinakaran.com/News\\_Detail.asp?Nid=387524](http://www.dinakaran.com/News_Detail.asp?Nid=387524)

2 நாள்பயணமாக சென்னைவந்தார் ஜெர்மன் அதிபர்ப்ராங்வால்ட்டர்ஸ்டெய்ன்மெர்

சென்னை; ஜெர்மன் அதிபரானப்ராங்வால்ட்டர்ஸ்டெய்ன்மெர் 2  
நாள்பயணமாக சென்னைவந்துள்ளார். சென்னைவந்துள்ள இவர் ஐஐடி உட்பட சில இ  
டங்களில் நடைபெறும் நிகழ்ச்சிகளில் பங்குபெற உள்ளது குறிப்பிடத்தக்கது,



Date: 26th March 2018  
Publication: India Today  
Edition: Online  
Journalist: NA

Professor: Prof Bhaskar Ramamurthi

**Headline: German president on two-day TN visit**

URL: <https://www.indiatoday.in/pti-feed/story/german-president-on-two-day-tn-visit-1197712-2018-03-25>

**German president on two-day TN visit**

Updating with additional details) Chennai, Mar 25 (PTI) German President Frank-Walter Steinmeier started his two-day tour of Tamil Nadu today with a visit to the plant of a German auto-maker near here and the premier technical institute, IIT, Madras. Steinmeier visited the facility of Daimler India Commercial Vehicle (DICV) at Oragadam near here, where he was welcomed by the companys India Managing Director and CEO, Erich Nesselhauf. Steinmeier undertook a tour of the manufacturing plant. The German president, who is on a five-day visit to India, arrived in the city in the afternoon. Later, he visited the Indian Institute of Technology, Madras, a premier institution set up with German assistance in the 1950s. "He interacted with start-ups incubated by IIT Madras and witnessed demonstrations of products developed by them," the institute said in a release. The President also visited the Healthcare Technology Innovation Centre (HTIC), a multi-disciplinary Research and Development centre located at the Research Park. An Indo-German Agreement in Bonn in 1959 resulted in the establishment of the IIT here, the release recalled.

"IIT-M has collaborations with several top educational institutions in Germany and also has an Indo-German Centre for Sustainability on campus, which aims at developing the capacity and the capability to promote sustainable development in Germany, India and South Asia," it added. Steinmeier, accompanied German Ambassador to India Martin Ney by among others, was received by IIT-M Director Bhaskar Ramamurthi. Earlier, on his arrival here, the German President was accorded a traditional welcome at the airport, and was received by Tamil Nadu Fisheries Minister D Jayakumar on behalf of the state. A Bharatnatyam performance was given for the President at the airport and a video of it was uploaded on the official Twitter handle of the German Embassy, @GermanyinIndia.

"Very cordial welcome for German President Frank-Walter Steinmeier at Madras Airport Station, Chennai. Looking forward to our meetings in Tamil Nadu," @GermanyinIndia, said in a tweet. Meanwhile, Steinmeiers wife, ElkeBudenbende, also had a couple of engagements. The First Lady visited the office of an NGO, working in the area of childrens rights and interacted with children, young men and women. She held discussions with UNICEF India representative Yasmin A Haque there. Budenbende later inaugurated a domestic and burn violence hotline of an NGO at Anna Nagar here. She also visited the famous Sri Kapaleeshwarar temple, a Shaivite shrine, in the city and offered prayers. After arriving in India on Thursday, the German President had visited Varanasi in Uttar Pradesh. He also had an interaction with students at Delhi University. Yesterday, Steinmeier held wide-ranging talks with the

Indian leadership, including Prime Minister Narendra Modi and Vice President M Venkaiah Naidu. He also met President Ram Nath Kovind at the Rashtrapati Bhavan. After a visit to the sea-side town of Mahabalipuram near here tomorrow, he is scheduled to return to Germany.

Date: 26th March 2018

Publication: Outlook India

Edition: Online

Journalist: NA

Professor: Prof Bhaskar Ramamurthi

**Headline: German president on two-day TN visit**

URL: <https://www.outlookindia.com/newscroll/german-president-on-twoday-tn-visit/1277518>

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Date: 26th March 2018

Publication: The Pioneer

Edition: Delhi

Page No: 5

Journalist: NA

Professor: Prof Bhaskar Ramamurthi

Headline: German President begins 2-day Tamil Nadu visit

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PTI ■ CHENNAI

German President Frank-Walter Steinmeier started his two-day tour of Tamil Nadu on Sunday with a visit to the plant of a German automaker near here and the premier technical institute, IIT, Madras. Steinmeier visited the facility of Daimler India Commercial Vehicle (DICV) at Oragadam near here, where he was welcomed by the company's India Managing Director and CEO, Erich Nesselhauf.

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Date: 26th March 2018

Publication: Deccan Herald

Edition: Bangalore

Page No: 8

Journalist: NA

Headline: German prez 'impressed' by IIT startups

URL: <http://www.deccanherald.com/content/666546/german-president-impressed-iit-start.html>



German President Frank-Walter Steinmeier takes a look at an automobile at the IIT-Madras Research Park on Sunday. PH

## German prez 'impressed' by IIT startups

**CHENNAI:** German President Frank-Walter Steinmeier on Sunday visited the IIT-Madras and interacted with startups from the prestigious institution.

The IIT-Madras was established with assistance from his country.

Steinmeier took time to interact with startups that have designed solar-electric hybrid three wheelers, an innovative wheelchair for people with disability and elderly, 3D printers with special focus on carbon fiber products, and compact underwater robots that can conduct environmental survey.

The startups, who had designed their products at the IIT-Madras Incubation Cell, gave a demonstrations to the German president.

Sources said he was "impressed" with the startups and lauded them for their contribution to science and technology. Later, Steinmeier visited the Healthcare Technology Innovation Centre (HTIC) inside the IIT Research Park.

IIT-Madras was established in 1959 after the then prime minister Jawaharlal Nehru signed an agreement with Germany to set up a higher technological institute in India.

This was the first Indo-Ger-

man agreement and provided for the services of German professors and five foremen, training facilities for 20 Indian faculty members and the supply of scientific and technical equipment for the establishment of the central workshop and 20 laboratories at the IIT-Madras.

The German president's first visit after arriving from New Delhi was to Daimler Heavy Vehicles factory in Oragadam, 52 km from here, and undertook a detailed plant visit.

Daimler India, which produces medium to heavy duty trucks and buses under the

brands of Bharat Benz and Mercedes Benz respectively, is a subsidiary of Daimler AG that is based in Germany.

"He (Steinmeier) has encouraged German political and economic partners to strengthen their commitment in India," the German Embassy in India said.

In the evening, Steinmeier also held a closed-door round-table with business leaders from Tamil Nadu and other southern states.

After a visit to the sea-side town of Mahabalipuram near here tomorrow, he is scheduled to return to Germany.

**DH News Service**

Date: 26th March 2018

Publication: The Times of India

Edition: Hyderabad

Page No: 8

Journalist: NA

**Headline: German President starts 2-day tour with visit to a german auto-maker plant and IIT-Madras**



Date: 26th March 2018

Publication: Deccan Chronicle

Edition: Chennai

Page No: 4

Journalist: NA

**Headline: German prez visits IIT-M Research Park**

## German prez visits IIT-M Research park

**Chennai:** German President Frank-Walter Steinmeier on Sunday visited the IIT Madras Research Park and interacted with the start ups from the institution. Steinmeier interacted with some of the start-ups that have developed solar/electric hybrid three wheelers, innovative wheelchair for people with disability and elderly, 3D printer with special focus on carbon fiber products and underwater robots. He also visited the Healthcare Technology Innovation Centre (HTIC), a multi-disciplinary R&D centre located at the Research Park. IIT Madras has established India's first University-driven Research Park and it has incubated 140 startups since 2006. *-DC*



Date: 26th March 2018

Publication: DT Next

Edition: Chennai

Page no.: 11

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi

**Headline: German Prez's pitstop at Daimler cheers TN Inc**

URL: <https://www.dtnext.in/News/Business/2018/03/26010938/1066457/German-President-Steinmeiers-pitstop-at-Daimler-cheers-.vpf>

# German Prez's pitstop at Daimler cheers TN Inc

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Steinmeier visited the facility of Daimler India Commercial Vehicle (DICV) at Oragadam, where he was welcomed by the company's India Managing Director and CEO, Erich Nesselhauf.

Steinmeier undertook a tour of the manufacturing plant. Nesselhauf and his team gave Steinmeier's delegation an insight into truck production and the company's vocational training programs inspired by the German model. Daimler's wholly-owned subsidiary DICV has been active in the strategic Indian market since 2012 and has delivered more than 60,000 vehicles to Indian customers under its BharatBenz brand.

The German president, who is on a five-day visit to India, arrived in the city on Sunday. Later, he visited the Indian Institute of Technology, Madras, a premier institution set up with German assistance in the 1950s. "He interacted with start-ups incubated by IIT



**German President Frank-Walter Steinmeier is all ears as Erich Nesselhauf, MD-CEO, DICV talks shop at Daimler's manufacturing plant, at Oragadam**

Madras and witnessed demonstrations of products developed by them," the institute said in a release.

The President also visited the Healthcare Technology Innovation Centre (HTIC), a multi-disciplinary Research and Development centre located at the Research Park.

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After arriving in India on Thursday, the German President had visited Varanasi in Uttar Pradesh. He also had an interaction with students at Delhi University. Steinmeier held wide-ranging talks with the Indian leadership, including Prime Minister Narendra Modi and Vice President M Venkaiah Naidu. He also met President Ram Nath Kovind at the Rashtrapati Bhavan.

He is scheduled to return to Germany after a visit to Mahabalipuram near here on Monday.

Date: 26th March 2018

Publication: The Times of India - Education Times Edition: Delhi

Edition: Delhi

Page No: 6

Journalist: NA

Professor: Prof R Nagarajan

**Headline: IIT Madras deploys CSR funding in societal projects**

URL: <http://www.educationtimes.com/article/11/2018031920180316175450609531c7328/IIT-Madras-deploys-CSR-funding-in-societal-projects.html>

# IIT Madras deploys CSR funding in societal projects

**TIMES NEWS NETWORK**

**I**ndian Institute of Technology (IIT) Madras faculty are researching products and services that can serve humanity. However, the translation from laboratory to actualisation is often a difficult one. The institute has invited the corporate sector under government regulations to partner and contribute in its startup vision for the nation through CSR before March 31, 2018.

Speaking on the importance of CSR funding for research, R Nagarajan, dean (International and Alumni Relations), IIT Madras, said, "Laboratory solu-

tions need to be proven on the ground. Every solution for a critical need—be it in water, in energy, in sanitation, in education, in land use—needs to be researched and developed in an academic setting, but eventually implemented in needful communities.

It is in this later phase that IIT Madras sees a huge need and opportunity for CSR funding."

Business houses from different parts of the country

have come forward as partners to support socially relevant projects at IIT Madras. The institute has received support for its incubators and also for faculty R&D projects with social impact.

The funding obtained through CSR is funnelled into socially relevant projects by IIT Madras faculty across seven sectors, namely, agriculture and farm tech, water technology, education and entrepreneurship, energy, health, environment and heritage.

The projects taken up include: a five-year rural electrification project using a solar-DC technology of IIT Madras at an estimated cost of Rs 135 crore; sustainable water and energy management in agricultural activities; urban lake integration for water utilisation and recreation; and an innovative 'C-4' model for high school students.

Industry intervention to support technology and business incubator is likely to promote innovation and job creation.



Date: 27th March 2018

Publication: India Education Diary

Edition: Online

Journalist: NA

Professor: Prof Bhaskar Ramamurthi and Prof. RavindraGettu

**Headline: Dr. Frank-Walter Steinmeier, President of the Federal Republic of Germany, visits IIT Madras Research Park**

URL: <http://indiaeducationdiary.in/dr-frank-walter-steinmeier-president-federal-republic-germany-visits-iit-madras-research-park/>

**Dr. Frank-Walter Steinmeier, President of the Federal Republic of Germany, visits IIT Madras Research Park**

Chennai: His Excellency Dr. Frank-Walter Steinmeier, President of the Federal Republic of Germany, visited Indian Institute of Technology Madras (IIT Madras) Research Park today (Sunday 25th March 2018).

The visit of the Federal President has its roots in the long and successful association between IIT Madras and Germany and the fruitful collaboration between Indian and German higher education landscape. Among the first IITs to come up in the country, IIT Madras was established with German assistance, way back in 1959.

He was received by Prof. Bhaskar Ramamurthi, Director, IIT Madras, Prof. RavindraGettu, Dean (Industrial Consultancy and Sponsored Research), IIT Madras, Mr. RajendraMootha, Chief Operating Officer of IIT Madras Research Park and Dr. TamaswatiGhosh, Chief Executive Officer, IIT Madras Incubation Cell, among others.

IIT Madras is home to India's first university-driven Research Park, which was the perfect place for the Federal President to interact with young entrepreneurs, researchers and faculty, witness their innovations and see how the bridge between education and economy is being made. Before arriving in Chennai, he visited New Delhi and Varanasi where he interacted with students as well.

Speaking about the President's visit, Prof Bhaskar Ramamurthi said, "We are honoured that the President of the Federal Republic of Germany has chosen to visit the IIT Madras Research Park to interact with our start-ups and see for himself the strides taken by our Institute set up with German assistance. The German influence was instrumental in the strong collaborations IIT Madras developed with industry even from its early years, culminating in the country's first university-based Research Park and innovation ecosystem of global scale."

His Excellency Dr. Steinmeier was accompanied by Dr. Martin Ney, German Ambassador to India; Ms. MuktaDuttaTomar, Indian Ambassador to the Federal Republic of Germany; Mr. Stephan Steinlein, Secretary of State, Foreign Office, Federal Republic of Germany, Mr. Christian Hirte, Parliamentary State Secretary, Federal Ministry for Economic Affairs and Energy, Federal Republic of Germany, and Mr. Ralph Brinkhaus, Member of Parliament in the German Bundestag and Deputy Chairman of CDU/CSU Parliamentary Group besides other high ranking officials and dignitaries.

Some of the start-ups incubated at IIT Madras Incubation Cell gave a demonstration of their products to His Excellency Dr. Steinmeier. The start-ups include:

- Ø Pi-Beam (Manufacturing solar/electric hybrid three wheelers)
- Ø Neomotion (Innovative wheelchair for people with disability and elderly)
- Ø Fabheads (3D printers, with special focus on carbon fiber products)
- Ø Planys (compact underwater robots for immersed structure inspection & environmental survey)
- Ø Detect (technology solution to the inspection needs of energy sector focusing mainly on the pipeline integrity management)
- Ø Skillveri (multi-skill virtual training simulators for painting and welding),
- Ø Merkel Haptics (first haptics company in India exclusively for touch related technologies, pioneer in providing 3D touch technology solutions)

He also visited the Healthcare Technology Innovation Centre (HTIC), a multi-disciplinary R&D centre located at the Research Park. The HTIC is a joint initiative of IIT Madras and Department of Biotechnology (DBT), Government of India, and brings together technologists, engineers, doctors and healthcare professionals, industry and government to develop healthcare technologies for the country.

The IIT Madras Research Park is a national pioneering effort to catalyze collaborative research between industry and academia and enable technological innovation and nurture entrepreneurship. It houses the R&D and innovation wings of industry majors engaged in collaborative research and technology transfer with the faculty.

It moreover, hosts four Incubators (IITM Incubation Cell, Rural Technology Business Incubator (RTBI), Bio-incubator and MedTech incubator) and several of IITM's Centres of Excellence/Research Laboratories. It was modelled along the lines of successful Research Parks in Stanford University, Massachusetts Institute of Technology and Harvard University.

Since 2006, 140 start-ups have been part of IITM Incubation Cell, out of which 32 start-ups have raised Rs 707 crore (US\$ 111 million) from investors. Furthermore, 63 IITM incubated start-ups are currently in the market, with a cumulative revenue of Rs 133 crore (US\$21 million) generated in financial year 2016-17.

#### History of IIT Madras and Germany

It all started during an official visit of the then-Prime Minister Shri. Jawaharlal Nehru to West Germany in 1956, when he was offered assistance by the Government of the Federal Republic of Germany to set up a higher technological institute in India. This resulted in the signing of the first Indo-German Agreement in Bonn in 1959, for the establishment of an Indian Institute of Technology at Madras.

The first Indo-German Agreement provided for the services of German professors and five foremen, training facilities for 20 Indian faculty members and the supply of scientific and technical equipment for

the establishment of the Central Workshop and 20 laboratories at IIT Madras. In 1959, the Institute was formally inaugurated. The visit of Dr. Heinrich Lubke, President of the Federal Republic of Germany, in 1962 marked the beginning of the Indo-German Technical Assistance Program. Over the years, the association has grown strength to strength. Today, IITM has collaborations with several top educational institutions in Germany and also has an Indo-German Centre for Sustainability on Campus, which aims at developing the capacity and the capability to promote sustainable development in Germany, India and South Asia.

Date: 27th March 2018

Publication: Careers 360

Edition: Online

Journalist: NA

Professor: Prof Bhaskar Ramamurthi

**Headline: German President witnesses amalgamation of Industry-Academia collaboration at IIT Madras**

URL: <https://news.careers360.com/german-president-witnesses-amalgamation-industry-academia-collaboration-iit-madras>

### **German President witnesses amalgamation of Industry-Academia collaboration at IIT Madras**

NEW DELHI, MARCH 26: Dr. Frank-Walter Steinmeier, President of the Federal Republic of Germany, visited Indian Institute of Technology Madras (IIT Madras) Research Park. The visit of the Federal President has its roots in the long and successful association between IIT Madras and Germany and the fruitful collaboration between Indian and German higher education landscape.

Also read : IIT-M, Deakin University to set up CoE in Advanced Materials & Manufacturing

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Date: 27th March 2018

Publication: Chennai Patrika

Edition: Online

Journalist: NA

Professor: Prof Bhaskar Ramamurthi

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URL: <http://news.chennaipatrika.com/post/2018/03/26/Dr-Frank-Walter-Steinmeier-visits-IIT-Madras-Research-Park.aspx>

**Dr. Frank-Walter Steinmeier, visits IIT Madras Research Park**

His Excellency Dr. Frank-Walter Steinmeier (left) being welcomed by Prof. Bhaskar Ramamurthi, Director, IIT Madras, during his Indian Institute of Technology Madras (IIT Madras) Research Park today'

Dr. Frank-Walter Steinmeier, President of the Federal Republic of Germany, visits IIT Madras Research Park

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- \* Planys (compact underwater robots for immersed structure inspection & environmental survey)
- \* Detect (technology solution to the inspection needs of energy sector focusing mainly on the pipeline integrity management)
- \* Skillveri (multi-skill virtual training simulators for painting and welding),
- \* Merkel Haptics (first haptics company in India exclusively for touch related technologies, pioneer in providing 3D touch technology solutions)

He also visited the Healthcare Technology Innovation Centre (HTIC), a multi-disciplinary R&D centre located at the Research Park. The HTIC is a joint initiative of IIT Madras and Department of Biotechnology (DBT), Government of India, and brings together technologists, engineers, doctors and healthcare professionals, industry and government to develop healthcare technologies for the country.

The IIT Madras Research Park is a national pioneering effort to catalyze collaborative research between industry and academia and enable technological innovation and nurture entrepreneurship. It houses the R&D and innovation wings of industry majors engaged in collaborative research and technology transfer with the faculty.

It moreover, hosts four Incubators (IITM Incubation Cell, Rural Technology Business Incubator (RTBI), Bio-incubator and MedTech incubator) and several of IITM's Centres of Excellence/Research Laboratories. It was modelled along the lines of successful Research Parks in Stanford University, Massachusetts Institute of Technology and Harvard University.

Since 2006, 140 start-ups have been part of IITM Incubation Cell, out of which 32 start-ups have raised Rs 707 crore (US\$ 111 million) from investors. Furthermore, 63 IITM incubated start-ups are currently in the market, with a cumulative revenue of Rs 133 crore (US\$21 million) generated in financial year 2016-17.

## History of IIT Madras and Germany

It all started during an official visit of the then-Prime Minister Shri. Jawaharlal Nehru to West Germany in 1956, when he was offered assistance by the Government of the Federal Republic of Germany to set up a higher technological institute in India. This resulted in the signing of the first Indo-German Agreement in Bonn in 1959, for the establishment of an Indian Institute of Technology at Madras.

The first Indo-German Agreement provided for the services of German professors and five foremen, training facilities for 20 Indian faculty members and the supply of scientific and technical equipment for the establishment of the Central Workshop and 20 laboratories at IIT Madras. In 1959, the Institute was formally inaugurated. The visit of Dr. Heinrich Lubke, President of the Federal Republic of Germany, in 1962 marked the beginning of the Indo-German Technical Assistance Program. Over the years, the association has grown strength to strength. Today, IITM has collaborations with several top educational institutions in Germany and also has an Indo-German Centre for Sustainability on Campus, which aims at developing the capacity and the capability to promote sustainable development in Germany, India and South Asia.

Date: 27th March 2018

Publication: Eenadu India

Edition: Online

Journalist: NA

Professor: Prof Bhaskar Ramamurthi

**Headline: German president gets busy in Chennai**

URL: <http://www.eenaduindia.com/states/south/tamil-nadu/chennai-city/2018/03/26190536/German-president-gets-busy-in-Chennai.vpf>

### **German president gets busy in Chennai**

Chennai: German president Frank-Walter Steinmeier, who was in the city, visited IIT-Madras Research Park and expressed happiness over the start-ups from the reputed higher education institution. He also visited the manufacturing plant of Daimler India Commercial Vehicles (DICV) at Oragadam, an industrial hub near Chennai.

The visit of the German president has its roots in the long association between IIT Madras and Germany. Among the first IITs to come up in the country, IIT Madras was established with German assistance, way back in 1959.

He was received by Bhaskar Ramamurthi, director, IIT-M and other top officials. He interacted with start-ups incubated by IIT Madras and witnessed demonstrations of products developed by them.

He also visited the Healthcare Technology Innovation Centre (HTIC), a multi-disciplinary R&D centre located at the Research Park. The HTIC is a joint initiative of IIT Madras and Department of Biotechnology (DBT), Government of India, and brings together technologists, engineers, doctors and healthcare professionals, industry and government to develop healthcare technologies for the country.

Bhaskar Ramamurthi said, "We are honoured that the president of the Federal Republic of Germany has chosen to visit the IIT Madras Research Park to interact with our start-ups and see for himself the strides taken by our institute set up with German assistance. The German influence was instrumental in the strong collaborations IIT Madras developed with industry even from its early years, culminating in the country's first university-based Research Park and innovation ecosystem of global scale."

Date: 27th March 2018

Publication: Trinity Mirror

Edition: Chennai

Page No: 8

Journalist: NA

Professor: Prof Bhaskar Ramamurthi

**Headline: German President extols the futuristic inventions by IIT ians**

URL: <http://www.trinitymirror.net/news/german-president-extols-futuristic-inventions-iitians-2/>



Students of IIT Madras demonstrate solar/electric hybrid three wheeler vehicle

## German President extols the futuristic inventions by IITians

Chennai, Mar. 26: Dr. Frank-Walter Steinmeier, President of the Federal Republic of Germany, visited Indian Institute of Technology Madras (IIT Madras) Research Park yesterday.

He was received by Prof. Bhaskar Ramamurthi, Director, IIT Madras, Prof. Ravindra Gattu, Dean (Industrial Consultancy and Sponsored Research), IIT Madras, Mr. Rajendra Mootha, Chief Operating Officer of IIT Madras Research Park and Dr. Tamaswati Ghosh, Chief Executive Officer, IIT Madras Incubation Cell, among others.

Speaking about the President's visit, Prof. Bhaskar Ramamurthi said, "We are honoured that the President of the Federal Republic of Germany has chosen to visit the IIT Madras Research Park to interact with our start-ups and see for himself the strides taken by our

Institute set up with German assistance. The German influence was instrumental in the strong collaborations IIT Madras developed with industry even from its early years, culminating in the country's first university-based Research Park and innovation ecosystem of global scale."

Some of the startups demonstrated were Pi-Beam (Manufacturing solar/electric hybrid three wheelers), Neomotion (Innovative wheelchair for people with disability and elderly), Fabheads (3D printers, with special, Planys (compact underwater robots for immersed structure inspection & environmental survey), Detect (technology solution to the inspection needs of energy sector focusing mainly on the pipeline integrity management), Skillvers (multi-skill virtual

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The HTIC is a joint initiative of IIT Madras and Department of Biotechnology (DBT), Government of India, and brings together technologists, engineers, doctors and healthcare professionals, industry and government to develop healthcare technologies for the country.

The visit of the Federal President has its roots in the long and successful association between IIT Madras and Germany and the fruitful collaboration

between Indian and German higher education landscape. Among the first IITs to come up in the country, IIT Madras was established with German assistance, way back in 1959.

Date: 29th March 2018

Publication: PTI

Edition: Online

Journalist: NA

Professor: Prof V Kamakoti

**Headline: Central task force on AI recommends setting up of N-AIM**

URL: [http://www.ptinews.com/news/9602089\\_Central-task-force-on-AI-recommends-setting-up-of-N-AIM.html](http://www.ptinews.com/news/9602089_Central-task-force-on-AI-recommends-setting-up-of-N-AIM.html)

### **Central task force on AI recommends setting up of N-AIM**

Chennai, Mar 28(PTI) A central task force on Artificial Intelligence (AI) has suggested creating a National Artificial Intelligence Mission (N-AIM) that will serve as a nodal agency for coordinating AI related activities in the country.

The report of the task force, set up by the Union Commerce Ministry in August last, has also said "AI should be seen as a scalable problem solver in India rather than only as a booster of economic growth."

Professor V Kamakoti, Chairman of the task force and a Professor of IIT, Madras, said the report was a "practical" one and that "all our recommendations have been very pointed and it has been seen to it that they are very much implementable in a short time."

According to the report, Artificial Intelligence "is the science and engineering of making intelligent machines, especially intelligent computer programmes."

The task force, whose members include those from government and the private sector, besides the academia, has identified 10 domains in India, including Manufacturing, FinTech, Agriculture/Food Processing and Education for implementation of AI.

Kamakoti told PTI that the implementation of AI in labour intensive sectors such as agriculture will not take away jobs, but enhance productivity.

The report has made a set of recommendations to the Government of India, which include the setting up of N-AIM with a budgetary allocation of Rs 1,200 crore over five years.

The task force has recommended that the government fund under the "Union budget an inter-ministerial National Artificial Intelligence Mission (N-AIM), that will act as a nodal agency for coordinating AI related activities in India."

The mission shall involve itself in "core activities, coordination of AI related projects of national importance and establishing Centers of Excellence."

The core activities include funding establishment of a network among Academia, services industry, product industry, startups and Government ministries, besides helping studies to identify concrete projects in each domain of focus.

Enabling policies and forging bilateral cooperation with countries like Canada, Germany, Israel, UK and US to develop AI solutions for social and economic problems and sharing the best practises were also recommended.

Asked about fears of AI possibly affecting jobs, Kamakoti said implementation of technology would actually enhance productivity and referred to agriculture to drive home his point.

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The manpower would remain the same but it would be "more tech-savvy," he added.

Date: 29th March 2018

Publication: The Hindu Business Line

Edition: Online

Journalist: NA

Professor: Prof V Kamakoti

**Headline: Nodal agency to coordinate AI activities in India recommended**

URL: <https://www.thehindubusinessline.com/news/science/nodal-agency-to-coordinate-ai-activities-in-india-recommended/article23371411.ece>

**Nodal agency to coordinate AI activities in India recommended**

AI will create more opportunities and jobs”

CHENNAI, MAR 28

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Date: 29th March 2018

Publication: The Hans India

Edition: Hyderabad

Page No: 15

Journalist:NA

Professor: Prof V Kamakoti

**Headline: Central task force calls for tabs on Artificial Intelligence activities**

URL: <http://www.thehansindia.com/posts/index/Young-Hans/2018-03-29/Central-task-force-calls-for-tabs-on-Artificial-Intelligence-activities-/370202>

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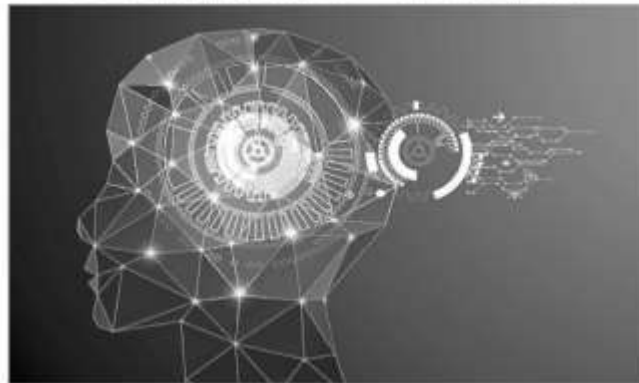
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Date: 29th March 2018

Publication: News Today

Edition: Chennai

Page No: 7

Journalist: NA

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**Headline: IIT-M prof urges**

## **IIT-M prof urges...**

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Date: 29th March 2018

Publication: News Today

Edition: Chennai

Page No: 1

Journalist: NA

Professor: Prof V Kamakoti

**Headline: IIT-M prof led panel urges Centre to set up AI mission**

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□ *contd. on page 7*

Date: 29th March 2018

Publication: The Week

Edition: Online

Journalist: NA

Professor: Prof V Kamakoti

**Headline: Central task force on AI recommends setting up of N-AIM**

URL: <https://www.theweek.in/news/sci-tech/2018/03/28/central-task-force-on-ai-recommends-setting-up-of-n-aim.html>

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Date: 29th March 2018

Publication: WION

Edition: Online

Journalist: NA

Professor: Prof V Kamakoti

**Headline: Central task force on AI recommends setting up of National Artificial Intelligence Mission**

URL: <http://www.wionews.com/india-news/central-task-force-on-ai-recommends-setting-up-of-national-artificial-intelligence-mission-126753>

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Date: 29th March 2018

Publication: The Indian Express

Edition: Online

Journalist: NA

Professor: Prof V Kamakoti

**Headline: Central task force on AI recommends setting up of N-AIM**

URL: <http://indianexpress.com/article/india/central-task-force-on-ai-recommends-setting-up-of-n-aim-5114130/>

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Date: 29th March 2018

Publication: Business Standard

Edition: Online

Journalist: NA

Professor: Prof V Kamakoti

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URL: [http://www.business-standard.com/article/pti-stories/central-task-force-on-ai-recommends-setting-up-of-n-aim-118032800182\\_1.html](http://www.business-standard.com/article/pti-stories/central-task-force-on-ai-recommends-setting-up-of-n-aim-118032800182_1.html)

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Date: 29th March 2018

Publication: State Times

Edition: Online

Journalist: NA

Professor: Prof V Kamakoti

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URL: <http://news.statetimes.in/central-task-force-on-ai-recommends-setting-up-of-n-aim/>

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Asked about fears of AI possibly affecting jobs, Kamakoti said implementation of technology would actually enhance productivity and referred to agriculture to drive home his point.

“Humans cannot be replaced but the skill sets change– He (farmer) may have to now drive an intelligent tractor...people are already using harvester,smart devices in farming,”he said.

“We believe this (AI) will create more opportunities and jobs and make the process of agriculture more reliable. For instance, AI can predict an infection in crops. Therefore it will make agriculture more sophisticated,” he said.

The manpower would remain the same but it would be “more tech-savvy,” he added.

Date: 29th March 2018

Publication: India Finance News

Edition: Online

Journalist: NA

Professor: Prof V Kamakoti

**Headline: Nodal agency to coordinate AI activities in India recommended**

URL: <https://www.indiafinancenews.com/nodal-agency-to-coordinate-ai-activities-in-india-recommended/>

### **Nodal agency to coordinate AI activities in India recommended**

A central task force on Artificial Intelligence (AI) has suggested creating a National Artificial Intelligence Mission (N-AIM) that will serve as a nodal agency for coordinating AI related activities in the country.

The report of the task force, set up by the Union Commerce Ministry in August last, has also said “AI should be seen as a scalable problem solver in India rather than only as a booster of economic growth.”

Professor V Kamakoti, Chairman of the task force and a Professor of IIT, Madras, said the report was a “practical” one and that “all our recommendations have been very pointed and it has been seen to it that they are very much implementable in a short time.”

According to the report, Artificial Intelligence “is the science and engineering of making intelligent machines, especially intelligent computer programmes”.

The task force, whose members include those from government and the private sector, besides the academia, has identified 10 domains in India, including Manufacturing, FinTech, Agriculture/Food Processing and Education for implementation of AI. Prof. Kamakoti told PTI that the implementation of AI in labour intensive sectors such as agriculture will not take away jobs, but enhance productivity.

The report has made a set of recommendations to the Government of India, which include the setting up of N-AIM with a budgetary allocation of Rs 1,200 crore over five years. The task force has recommended that the government fund under the “Union budget an inter-ministerial National Artificial Intelligence Mission (N-AIM), that will act as a nodal agency for coordinating AI related activities in India”. The mission shall involve itself in “core activities, coordination of AI related projects of national importance and establishing Centers of Excellence.”

The core activities include funding establishment of a network among academia, services industry, product industry, start-ups and government ministries, besides helping studies to identify concrete projects in each domain of focus.

Enabling policies and forging bilateral cooperation with countries like Canada, Germany, Israel, UK and US to develop AI solutions for social and economic problems and sharing the best practises were also recommended.

Asked about fears of AI possibly affecting jobs, Prof. Kamakoti said implementation of technology would actually enhance productivity and referred to agriculture to drive home his point. “Humans cannot be replaced but the skill sets change— He (farmer) may have to now drive an intelligent tractor...people are already using harvester, smart devices in farming,” he said.

“We believe this (AI) will create more opportunities and jobs and make the process of agriculture more reliable. For instance, AI can predict an infection in crops. Therefore it will make agriculture more sophisticated,” he said. The manpower would remain the same but it would be “more tech-savvy,” he added.

**IIT Madras is a Research Focused  
Institute**



Date: 6th March 2018

Publication: The New Indian Express

Edition: Chennai

Page no.: 2

Journalist: S V Krishna Chaitanya

Headline: IIT-M students develop mobile unit that turns plastic waste into fuel oil

URL: <http://www.newindianexpress.com/cities/chennai/2018/mar/06/iit-m-students-develop-mobile-unit-that-turns-plastic-waste-into-fuel-oil-1782717.html>



The IIT-M team that has developed a solar-powered plastic fuel mobile unit | EXPRESS

## IIT-M students develop mobile unit that turns plastic waste into fuel oil

S V KRISHNA CHAITANYA  
@Chennai

A team of students from IIT Madras has developed a solar-powered mobile unit that converts non-recyclable plastic waste into fuel oil that is cheaper than diesel and can be used as a substitute in generators, industrial boilers, furnaces, diesel-powered engines and agricultural pumps.

The technology, when scaled up into a full-fledged commercial product, can be the ideal solution for city corporations to manage plastic waste. This green technology — Plastic Pyrolysis — essentially breaks down polymer chains in plastic at 350-400 degree Celsius in the absence of oxygen to get the low density fuel oil.

The best thing about this technology is that even waste such as plastic bags, packaging material and other miscellaneous plastic stuff that are not normally picked up by ragpickers for recycling can be used as raw materials. These non-recyclable varieties are a real nightmare as they do not degrade, but clog drains, choke livestock and mar the environment.

As per the study conducted by the Central Pollution Control Board (CPCB), India generates about 0.6 million tonnes of plastic waste annually, of which 2.34 million tonnes remain uncollected. Chennai ranks second among all the cities with 428 tonnes of plastic waste being generated daily.

Research scholar G Hiyogeyya, who is part of the student team, said there are large-scale pyrolysis plants with a capacity of five tonnes per day. "There is one at Akantur, but these plants are not optimised due to low input of raw materials. Ours is a completely decentralised mechanism, where the waste can go to the corporation collection points once in a fortnight and process the waste. We are also working on different catalysts that can improve the yield of the fuel. One kilogram of plastic will give 0.5 litre of fuel oil. The primary objective of the plastic fuel mo-

bile unit is waste management," she said.

A couple of industries like Indian Oil Corporation have already shown interest in the technology. Indiraathi M Nanda, professor, Environmental and Water Resources Engineering Division, Department of Civil Engineering, IIT-M, said the mobile unit can cater to the waste management needs of big residential complexes and industries. This mode of plastic disposal can also come under CSR activity of the corporate sector.

Scram Narasimhan, manag-

ing trustee of Scramlife Foundation and industrial mentor for the project, said the team has done a good job understanding the issues with the current incineration technology. "Finding a solution that is not bound by unavailability of raw material, catering to urban, semi-urban and rural needs is commendable. Compared to furnace oil, the plastic fuel is cheap and less polluting," he said.

The team has won the Zero Carbon Challenge-2018 recently and looks to incubate with IIT Madras Research Park.

Date: 7th March 2018

Publication: DT Next

Edition: Chennai

Page No: 1

Journalist: R Stayanarayana

Students: GauravLodha

**Headline: IIT-M's low-cost water recycler eyes households**

URL: <https://www.dtnext.in/News/City/2018/03/07022758/1064227/IITMs-lowcost-water-recycler-eyes-households.vpf>

## IIT-M's low-cost water recycler eyes households

■ R SATHYANARAYANA

**CHENNAI:** In a first of its kind innovation, students from Indian Institute of Technology Madras (IIT-M) have developed a mini domestic sewage treatment kit, which could be used by households to help counter the ongoing water crisis.

The current system used for water treatment is bulky and more suitable for industrial applications. The mini water treatment plant, named Decanter, will process domestic effluents, like water drained from kitchen, bathroom, solid and liquid waste from toilets using a modern water treatment process. The treated water is sent back into the flush tank for reuse in all household cleaning purposes (including clothes, vessels and more).

### ADIOS, WATER WOES



■ Domestic waste water from kitchens, bathrooms and toilets is treated using centrifugation and electro coagulation

■ Processed water can be used for household cleaning purposes such as washing clothes, vessels and more

The process involves collection of water from various domestic sources, after which it undergoes centrifugation. Following this, the water is purified through a process called electro coagulation.

Gaurav Lodha, Student Executive Head, Centre for Innovation (CFI), IIT-M, who is in his final year of Civil Engineering, said, "It will be a boon for regions where water supply is insufficient and people are compelled to buy water. This kit (tentatively priced at Rs 15K for the market) is equipped with all modern sewage treatment processes and is encased in a box the size of an A/C."

A common man needs 150 ltrs of water per day, of which 40 litres is used for flushing. Claiming that in Chennai, private players charge up to Rs 2,400 for 20,000 litres of water, Gaurav said a family of four ends up paying Rs 7,000 every year, just to meet the cost of water used for flushing toilets (at 40 ltrs per person per day). He adds, "Instead of buying this water, one could opt for Decanter, which could help save money, besides being a sustainable solution to the water crisis."

Date: 11th March 2018

Publication: The Sunday Standard

Edition: Delhi

Page no.: 11

Journalist: S V Krishna Chaitanya

Professor: Prof Indumathi M Nambi

Student: G Divyapriya

**Headline: Solar-powered unit turns plastic waste into fuel oil**

URL: <http://www.newindianexpress.com/thesundaystandard/2018/mar/11/solar-powered-unit-turns-plastic-waste-into-fuel-oil-1785166.htm>



The IIT-M team that has developed a solar-powered plastic fuel mobile unit | EXPRESS

## IIT-M students develop mobile unit that turns plastic waste into fuel oil

S V KRISHNA CHAITANYA  
@Dusse

A team of students from IIT Madras has developed a solar-powered mobile unit that converts non-recyclable plastic waste into fuel oil that is cheaper than diesel and can be used as a substitute in generators, industrial boilers, furnaces, diesel-powered engines and agricultural pumps.

The technology, when scaled up into a full-fledged commercial product, can be the ideal solution for city corporations to manage plastic waste. This green technology — Plastic Pyrolysis — essentially breaks down polymer chains in plastic at 300-600 degree Celsius in the absence of oxygen to get the low density fuel oil.

The best thing about this technology is that even waste such as plastic bags, packaging material and other miscellaneous plastic stuff that are not normally picked up by ragpickers for recycling can be used as raw materials. These non-recyclable varieties are a real nightmare as they do not degrade, but clog drains, choke livestock and mar the environment.

As per the study conducted by the Central Pollution Control Board (CPCB), India generates about 5.6 million tonnes of plastic waste annually of which 2.94 million tonnes remain uncollected. Charcoal racks scattered across all the cities with 600 tonnes of plastic waste being generated daily.

Research scholar G Divyapriya, who is part of the student team, said there are large-scale pyrolysis plants with a capacity of five tonnes per day. "There is one at Alandur, but these plants are not optimised due to low input of raw materials. There is a completely decentralised mechanism, where the vehicle goes to the corporation collection points once in a fortnight and processes the waste. We are also working on different catalysts that can improve the yield of the fuel. One kilogram of plastic will give six litre of fuel oil. The primary objective of the plastic fuel mo-

bile unit is waste management," she said.

A couple of industries like Indian Oil Corporation have already shown interest in the technology. Indumathi M Nambi, professor, Environmental and Water Resources Engineering Division, Department of Civil Engineering, IIT-M, said the mobile unit can cater to the waste management needs of big residential complexes and industries. The need of plastic disposal can also come under CSR activity of the corporate sector.

Prakash Narasimhan, manag-

ing trustee of Bose Vihari Foundation and industrial mentor for the project, said the team has done a good job understanding the issues with the current large-scale technology. "Finding a solution that is not bound by unavailability of raw material, catering to urban, semi-urban and rural needs is commendable. Cracked or firmance oil, the plastic fuel is cheap and less polluting," he said.

The team has won the Zero Carbon Challenge 2018 recently and looks to incubate with IIT Madras Research Park.

Date: 14th March 2018

Channel: DD Podhigai

Edition: Electronic

Journalist: NA

Professor: Prof Bhaskar Ramamurthi and Prof B.S. Murty

**Headline: IIT-M, Deakin varsity join hands for research**

Date: 14th March 2018

Channel: DD News

Edition: Electronic

Journalist: NA

Professor: Prof Bhaskar Ramamurthi and Prof B.S. Murty

**Headline: IIT-M, Deakin varsity join hands for research**

Date: 15th March 2018

Publication: All India Radio

Edition: Electronic

Journalist: Mr. S. Sakthivel

Professor: Prof Bhaskar Ramamurthi and Prof. R. Nagarajan

**Headline: IIT Madras-Deakin University Centre of Excellence inaugurated**

Date: 15th March 2018

Publication: The Hindu

Edition: Chennai

Page No: 2

Journalist: NA

Professor: Prof Bhaskar Ramamurthi and Prof B.S. Murty

**Headline: IIT-M ties up with Australian varsity for research in metallurgy**

URL: <http://www.thehindu.com/news/cities/chennai/iit-m-ties-up-with-australian-varsity-for-research-in-metallurgy/article23247630.ece>

## IIT-M ties up with Deakin University

SPECIAL CORRESPONDENT  
CHENNAI

The Indian Institute of Technology - Madras has tied up with the Deakin University of Australia to conduct research in metallurgy and manufacturing materials.

The Centre of Excellence in advanced materials and manufacturing was officially inaugurated on Wednesday by Philip Dalidakis, Minister for Trade and Innovation, Victoria. The partnership with Deakin University happened because of the vision of a group of people. "In 1994, Deakin University reached out to the Indian market. It was the first Australian university to come to India. Today is the culmination of a lot of work by a lot of people," Mr. Dalidakis said.

The association with Deakin University was the oldest and most developed one, said IIT-M director Bhaskar Ramamurthi. The institute was keen that the centre take forward the relationship to research and development by including the industry and introduce "some really good innovation" that would reach the public.

The centre was housed in the research park "to constantly remind ourselves that the main goal is to achieve the outward thrust toward industry in the form of product and innovation start up," Mr. Ramamurthi said.

B.S. Murty, professor at the Department of Metallurgical and Materials Engineering at the institute, said the aim was not only to collaborate and have a tripartite programme and work with industry, but also to conduct joint doctoral and masters programmes.

Date: 15th March 2018

Publication: DT Next

Edition: Chennai

Page No: 3

Journalist: NA

Professor: Prof Bhaskar Ramamurthi

**Headline: IITM ties up with Deakin University to set up first Bilateral Centre of Excellence**

URL: <https://www.dtnext.in/News/City/2018/03/15020243/1065109/IITM-ties-up-with-Deakin-University-to-set-up-first-.vpf>

## *IIT-M ties up with Deakin University to set up first Bilateral Centre of Excellence*

**CHENNAI:** The Indian Institute of Technology (IIT) Madras joined hands with Deakin University, Australia, to establish a Bilateral Centre of Excellence (CoE) in Advanced Materials and Manufacturing. This is the first such bilateral CoE in the country.

The new centre will research on developing next-generation wear-resistant and high temperature alloys, smart and functional materials, and advanced manufacturing technologies. The IIT Madras-Deakin University CoE in Advanced Materials and Manufacturing is being set up with seed grant from both Deakin University and IIT Madras.

The CoE will execute the recently funded Australia-India Strategic Research Fund (AISRF) project. The Department of Metallurgical and Materials Engineering, IIT Madras, in collaboration with the Institute for Frontier Materials, Deakin Uni-



**Philip Dalidakis, Minister for Trade and Innovation, Victoria, Australia (left), and Bhaskar Ramamurthi, Director, IIT Madras, during the event on Wednesday**

versity, have come together to establish the CoE. Key research areas that will be undertaken by this centre include next generation wear-resistant and high temperature alloys, smart and functional materials such as nano-spun fibres and nano-composites for bio applications, apart from light and strong materials which encompasses novel forming techniques for ultra-high strength steels.

The centre will collaborate with both industries as well as research and development organisations such as International Advanced Research Centre for Powder Metallurgy and New Materials, Defence Metallurgical Research Laboratory and Defence Institute of Advanced Technology.

"The CoE leverages the combined expertise of the faculty of the two universities and will create new materials

and next-generation manufacturing techniques at the global cutting-edge", Bhaskar Ramamurthi, director of the institute said during the launch of the centre.

According to him, the CoE would work towards establishing a world-class additive manufacturing facility at IIT Madras, which would complement the facilities at Deakin University.

Ravneet Pawha, Deputy Vice President - Global and CEO - South Asia, Deakin University, said, "Putting together the expertise of both the institutions in establishing research work, the Centre of Excellence is set to be a leader in the coming years. It will play a strategic role in enforcing methodologies of the future."

Philip Dalidakis, Minister for Trade and Innovation of Victoria, the state in Australia where the publicly-funded Deakin University is situated, inaugurated the Centre of Excellence along with IIT-M director Bhaskar Ramamurthi.



Date: 15th March 2018

Publication: Deccan Chronicle

Edition: Chennai

Page No: 5

Journalist: NA

Professor: Prof Bhaskar Ramamurthi

**Headline: IIT-M sets up new bilateral centre**

## **IIT-M sets up new bilateral centre**

**Chennai:** IIT Madras in collaboration with Deakin University in Australia has set up new bilateral centre to study new generation alloys and smart materials. Philip Dalidakis, minister for trade and innovation, Victoria, Australia has inaugurated the centre for excellence in advanced materials and manufacturing at IIT Madras Research Park on Wednesday. The centre will focus on developing wear-resistant and high temperature alloys, smart and functional materials like nano-spun fibers and nano-composites for bio-applications besides light and strong materials. Speaking at the inauguration, IIT Madras director Bhaskar Ramamurthi said, "The centre of excellence leverages the combined expertise of the faculty of the two universities and will create new materials and next-generation manufacturing techniques at the global cutting-edge." The Centre will collaborate with Industries and R&D organisations such as International Advanced Research Centre for Powder Metallurgy and New Materials, Defence Metallurgical Research Laboratory etc.

Date: 15th March 2018

Publication: Dinakaran

Edition: Chennai

Page No: 2

Journalist: Mr.Parthasarathy

Professor: Prof Bhaskar Ramamurthi, Prof R. Nagarajan

**Headline: IIT-Australian University join hands to launch Centre of Excellence; Australian Minister inaugurates**

URL:[http://www.dinakaran.com/News\\_Detail.asp?Nid=384382](http://www.dinakaran.com/News_Detail.asp?Nid=384382)

# ஐஐடி- ஆஸ்திரேலிய பல்கலை இணைந்து உற்பத்தி பொருள் ஆராய்ச்சி மையம் துவக்கம்

**ஆஸ்திரேலிய அமைச்சர் தொடங்கி வைத்தார்**

சென்னை, மார்ச் 15: சென்னை ஐஐடி - ஆஸ்திரேலியாவின் டெக்கின் பல்கலைக்கழகம் இணைந்து உற்பத்தி பொருட்கள் ஆராய்ச்சி மையம் சென்னையில் நேற்று தொடங்கப்பட்டது.

சென்னை ஐஐடி ரிசர்ச் பார்க் வளாகத்தில் உற்பத்திப்பொருட்கள் ஆராய்ச்சி மையம் நேற்று தொடங்கப்பட்டது. இதன் தொடக்க விழாவில் ஆஸ்திரேலியாவின் விக்டோரியா மாகாண தொழில்துறை அமைச்சர் பிலிப் டலிட்கீஸ், சென்னை ஐஐடி இயக்குனர் பாஸ்கர் ராமமூர்த்தி, ஆஸ்திரேலியாவின் டெக்கின் பல்கலைக்கழகத்தின் தெற்காசிய பிராந்திய துணைத் தலைவர் ரவ்நீத் பங்கா கலந்து கொண்டனர். ஆராய்ச்சி மையத்தின் போர்டை ஆஸ்திரேலிய அமைச்சர் பிலிப் டலிட்கீஸ் திறந்து வைத்தார்.



▶ உற்பத்தி பொருட்கள் ஆராய்ச்சி மையத்தை ஆஸ்திரேலிய தொழில்துறை அமைச்சர் பிலிப் டலிட்கீஸ் தொடங்கி வைக்கிறார்.

சென்னை ஐஐடி, ஆஸ்திரேலியாவின் டெக்கின் பல்கலைக்கழகம் இணைந்து ஆராய்ச்சி மையம் ஒன்றை அமைக்க கடந்த ஆண்டு நவம்பர் 28ம் தேதி புரிந்துணர்வு ஒப்பந்தம் போடப்பட்டது. இந்த ஒப்பந்தத்தின் படி இரு நாட்டு கல்வி நிறுவனங்களின் நிதியுதவியுடன் இந்த ஆராய்ச்சி மையம் இயங்க உள்ளது. அதித வெப்பநிலையில் இயங்கும் இரும்பு ரிம்,

மருத்துவ ஆராய்ச்சியில் பயன்படுத்தப்படும் நானோ இழைகள், எடைகுறைவான அதே நேரத்தில் மிகஉறுதியான இரும்பு உருவாக்குவது தொடர்பான ஆராய்ச்சிகள் மேற்கொள்ளப்பட உள்ளது.

இது தொடர்பாக சென்னை ஐஐடி இயக்குனர் பாஸ்கர் ராமமூர்த்தி கூறியதாவது:

சென்னை ஐஐடி, டெக்கின் பல்கலைக்கழகம் இடையே பல ஆண்

டுகளாக கல்வி ரீதியான தொடர்பு உள்ளது. மாணவர் பரிமாற்றம், இரு நாட்டு கல்வி நிறுவனங்கள் இணைந்து பி.எச்டி. படிப்புகளை நடத்தியுள்ளோம். அதன் தொடர்ச்சியாக தற்போது உற்பத்தி பொருட்கள் ஆராய்ச்சி மையம் தொடங்கப்பட்டுள்ளது. இங்கு நடைபெறும் ஆராய்ச்சி மூலம் அடுத்த தலைமுறைக்கான பொருட்களை உருவாக்குவார்கள். இவ்வாறு அவர் கூறினார்.



Date: 16th March 2018

Publication: News Today

Edition: Chennai

Page No: 3

Journalist: NA

Professor: Prof Bhaskar Ramamurthi and Prof B.S. Murty

**Headline: IIT-M, Deakin varsity join hands for research**

URL: <https://www.newstodaynet.com/index.php/2018/03/15/iit-m-deakin-varsity-join-hands-for-research/>

# IIT-M, Deakin varsity join hands for research

## □ Sets up Bilateral Centre of Excellence in Advanced Materials & Manufacturing

NT Bureau

Chennai, Mar 15:

Indian Institute of Technology Madras (IIT-M) has joined hands with Deakin University, Australia, to establish India's first Bilateral Centre of Excellence (CoE) in Advanced Materials and Manufacturing.

The MoU to establish the Centre, which will be based out of IIT Madras Research Park, was signed on 28 November 2017 and was inaugurated on Wednesday, a press release said.

The IIT Madras-Deakin University Centre of Excellence on Advanced Materials and Manufacturing ([www.deakiniitmcoe.iitm.ac.in](http://www.deakiniitmcoe.iitm.ac.in)) is being set up with seed grant from both Deakin University and IIT Madras. The CoE will execute the recently funded Australia-India Strategic Research Fund (AISRF) project.

The Department of Metallurgical and Materials Engineering, IIT Madras, in collaboration with the Institute for Frontier Materials, Deakin University have come together to establish the CoE.



**Minister for Trade and Innovation, Victoria, Australia, Philip Dalidakis and IIT-M Director Bhaskar Ramamurthi at the inauguration of Centre of Excellence at IIT-M campus in Chennai on Wednesday.**

Minister for Trade and Innovation, Victoria, Australia, Philip Dalidakis inaugurated the Centre of Excellence and unveiled the Signage in the presence of IIT-M Director Bhaskar Ramamurthi and other dignitaries.

The Centre would focus on key areas like next generation wear-

resistant and high temperature alloys, smart and functional materials such as nano-spun fibres and nanocomposites for bio applications besides light and strong materials which encompasses novel forming techniques for ultra-high strength steels, the release said.

Date: 16th March 2018

Publication: Manufacturers Monthly

Edition: Online

Journalist: NA

Professor: Prof Bhaskar Ramamurthi and Prof B.S. Murty

**Headline:VIC university's additive manufacturing centre cements ties with India**

URL: <http://www.manmonthly.com.au/news/vic-universitys-additive-manufacturing-centre-cements-ties-india/>

### **VIC university's additive manufacturing centre cements ties with India**

Deakin University and the Indian Institute of Technology Madras are planning a new centre of excellence in metallurgy and additive manufacturing following the announcement that Indian software group Ramco Systems is also opening an innovation hub in Victoria.

Ramco has confirmed it will set up a Workforce Innovation Centre, based in Melbourne, geared towards the development of artificially intelligent technology.

Victoria's minister for Trade and Investment Philip Dalidakis made the announcement at the company's Chennai headquarters, also revealing a collaboration between the two universities.

In addition, the new Deakin IIT Madras Centre of Excellence in Metallurgy and Additive Manufacturing will build on the 10-year relationship between the two institutions and will offer PhD programs which drive research in light, strong and high temperature materials.

India and Sri Lanka are key markets for Victoria's international education industry, with more than 200,000 Indian students seeking education in Australia over the last decade.

MEGATRANS2018: Take part in a Global Logistics Revolution

Victoria estimates its trade ties with India will represent almost \$1 billion over the next decade.

Dalidakis also met with key Indian business leaders including biotech pioneer Dr KiranMazumdar-Shaw, the recently announced Victorian Business Ambassador who is already connecting local businesses with the Indian health and biotech sectors so they can expand into new markets and create local jobs.

"While our relationship with China is important, we need to diversify and create new partnerships throughout South Asia so that our economy can continue to grow," Dalidakis said.

"We're strengthening our relationships with India and Sri Lanka and through our new India strategy we will attract even more investment, more tourists and boost exports to create jobs for Victorians."

Date: 16th March 2018

Publication: Deccan Chronicle

Edition: Chennai

Page No: 4

Journalist: NA

Professor: Prof Bhaskar Ramamurthi and Prof B.S. Murty

**Headline: IIT-M, Deakin varsity join hands for research**



IIT-M director Bhaskar Ramamurthi said that it has joined hands with Deakin University, Australia, to establish India's first bilateral centre of excellence in advance material and manufacturing

Date: 17th March 2018

Publication: News Today

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi

**Headline: IIT-M, Deakin varsity join hands for research**

URL: [https://www.newstodaynet.com/index.php/2018/03/15/iit-m-deakin-varsity-join-hands-for-research/?upm\\_export=print](https://www.newstodaynet.com/index.php/2018/03/15/iit-m-deakin-varsity-join-hands-for-research/?upm_export=print)

### **IIT-M, Deakin varsity join hands for research**

Chennai: Indian Institute of Technology Madras (IIT-M) has joined hands with Deakin University, Australia, to establish India's first Bilateral Centre of Excellence (CoE) in Advanced Materials and Manufacturing.

The MoU to establish the Centre, which will be based out of IIT Madras Research Park, was signed on 28 November 2017 and was inaugurated on Wednesday, a press release said.

The IIT Madras-Deakin University Centre of Excellence on Advanced Materials and Manufacturing ([www.deakiniitmcoe.iitm.ac.in](http://www.deakiniitmcoe.iitm.ac.in)) is being set up with seed grant from both Deakin University and IIT Madras. The CoE will execute the recently funded Australia-India Strategic Research Fund (AISRF) project.

The Department of Metallurgical and Materials Engineering, IIT Madras, in collaboration with the Institute for Frontier Materials, Deakin University have come together to establish the CoE.

Minister for Trade and Innovation, Victoria, Australia, Philip Dalidakis inaugurated the Centre of Excellence and unveiled the Signage in the presence of IIT-M Director Bhaskar Ramamurthi and other dignitaries.

The Centre would focus on key areas like next generation wear-resistant and high temperature alloys, smart and functional materials such as nano-spun fibres and nano-composites for bio applications besides light and strong materials which encompasses novel forming techniques for ultra-high strength steels, the release said.

Date: 18th March 2018

Publication: The India Saga

Edition: Online

Journalist: NA

Professor: Prof. Bhaskar Ramamurthi

**Headline: IIT-M, Deakin varsity join hands for research**

URL: <http://www.theindiasaga.com/social-sector/iit-madras-ties-up-with-deakin-university>

### **IIT Madras Ties Up With Deakin University**

NEW DELHI: Indian Institute of Technology Madras has joined hands with Deakin University, Australia, to establish India's first Bilateral Centre of Excellence (CoE) in Advanced Materials and Manufacturing.

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Philip Dalidakis, Minister for Trade and Innovation, Victoria, Australia, inaugurated the Centre of Excellence and unveiled the Signage in the presence of Prof. Bhaskar Ramamurthi, Director, IIT Madras, and other dignitaries.

Key research areas of this Centre includes next generation wear-resistant and high temperature alloys, smart and functional materials such as nano-spun fibres and nano-composites for bio applications besides Light and strong materials which encompasses Novel forming techniques for ultra-high strength steels.

The Centre will collaborate with Industries and R&D Organisations such as International Advanced Research Centre for Powder Metallurgy and New Materials, Defence Metallurgical Research Laboratory and Defence Institute of Advanced Technology.

Speaking about this Centre of Excellence, Prof. Bhaskar Ramamurthi, Director, IIT Madras, said, "This is the culmination of a long, productive and growing Relationship between IIT Madras and Deakin University. We started with faculty and student exchange, graduated to a joint PhD programme, and now to a CoE in Advanced Materials and Manufacturing. The CoE leverages the combined expertise of the faculty of the two universities and will create new materials and next-generation manufacturing techniques at the global cutting-edge."

The CoE would strive towards establishing a world-class additive manufacturing facility at IIT Madras that complements the facilities at Deakin University. This would position IIT Madras as the Additive Manufacturing research leader in India, and also strengthen Deakin University's eminence in the field.



The expected outcomes and impact of this centre includes cutting-edge science and innovation, new significant infrastructure at IIT Madras, accelerated growth in student numbers under the joint doctoral program and increased industry interaction and technology translation besides demonstrated collaboration for bilateral funding opportunities and Joint grant proposals, conference and workshops.

The existing researcher-to-researcher relationship and joint doctoral program between IIT Madras and Deakin University would form the platform for growth and increased research commitment through the CoE.

Although IIT Madras and Deakin have invested some seed funding for this CoE, the Centre will be self-sustaining soon with funding from Government, industry and various HR programmes that will be conducted by the CoE. There are a number of industries which are already collaborating with both IIT Madras and Deakin University and they are likely to be the funding partners for the CoE.

Additional funding from the industry would also be raised for the Centre through specific sponsored and consultancy projects. Regular workshops and hands on training programmes that would be conducted would be for the benefit of academia, research labs and industry. The Indo-Australian Workshop on Advances in Materials and Additive Manufacturing is the first workshop of the CoE, which is being organised between 21-22 March 2018 at the Research Park, IIT Madras.

Date: 22nd March 2018

Publication: The Economic Times

Edition: Hyderabad / Bangalore / Chennai / Kolkata/ Kochi

Page No: 5

Journalist: Anandi C

Headline: Sugar Residue Can Fuel Tractors say IIT-M Researchers

URL: <https://economictimes.indiatimes.com/news/science/sugar-residue-can-fuel-tractors-say-iit-m-researchers/articleshow/63409350.cms>

# Sugar Residue Can Fuel Tractors, say IIT-M Researchers

They develop method to convert bagasse, a sugar residue, into methanol

Anandi.C@timesgroup.com

**Chennai:** Researchers at the Indian Institute of Technology Madras, have developed a method to convert bagasse, the residue left after sugar extraction, into methanol, an alternative fuel that can run tractors and other farm equipment.

The technology developed at the National Centre for Combustion Research and Development (NCCRD) within IIT-M, if adopted widely, can potentially translate into 15% reduction in the petroleum import bill for the Indian farm sector, according to a senior researcher. "Production of methanol locally would also help with the recovery in the rural agricultural economy," said SR Chakravarthy, coordinator, NCCRD, and one of the research heads of the project.

While there is significant stress by the government on the usage of ethanol also as an alternative fuel ingredient, it competes with the alcohol market, said Chakravarthy. "The government has a sense that methanol will be independent of the liquor market unlike ethanol, as it is non-edible. The longer term motivation is that methanol can also be made from carbon dioxide."

The university is also working on design modifications in existing farm equipment so they can run on methanol, said V Raghavan, professor, Department of Mechanical Engineering, IIT Madras, who is the

other research head of the project. IIT Madras is in advanced talks with leading sugar manufacturing companies and farm equipment companies for demonstrations and adoption.

Gasification of coal into methanol is prevalent in China. According to the Methanol Institute, USA – an industry consortium – up to 15-20% of the fuel used in China is mixed with methanol. While India has an abundant availability of coal that can be converted into methanol, the gasification of coal into methanol emits carbon dioxide which is an undesirable by-product based on India's current renewable energy and climate protection obligations, said Chakravarthy. Additionally, the methanol plants need to be located near the typically high ash coal mines in India, in order to reduce transportation costs, he said.

MS Srinivasan, senior industry relations advisor, Centre for Industrial Consultancy and Sponsored Research, IIT Madras said: "An industry partner has shown interest with whom we will be signing a research project for the next three years. They will bring in their farm equipment which is currently based on diesel. We will study it and suggest modifications such that they can switch over to a methanol blend from diesel."

## ROAD AHEAD

The university is also working on design modifications in existing farm equipment so they can run on methanol



Date: 29th March 2018

Publication: India Science Wire

Edition: Online

Journalist: NA

Students: R. Jayasree, K. Madhumathi, Rakesh P. Nankar, Mukesh Doble, and T. S. Sampath Kumar

**Headline: Eggshell-derived nanoparticles can be used for drug delivery**

URL: [http://vigyanprasar.gov.in/isw/eggshell\\_derived\\_nanoparticles\\_used\\_drug\\_delivery\\_story.html](http://vigyanprasar.gov.in/isw/eggshell_derived_nanoparticles_used_drug_delivery_story.html)

### **Eggshell-derived nanoparticles can be used for drug delivery**

Eggshells are among the most commonly discarded kitchen waste. Now scientists are putting eggshells to some novel use – drug delivery – by deriving nanoparticles out of them.

A team of scientists at the Indian Institute of Technology (IIT) Madras have developed a method to use eggshells for synthesizing nanoparticles. These nanoparticles could be potential candidates for local drug delivery as well as a material for bone grafts.

Nanoparticles are extremely tiny particles which can be customized for various biomedical applications like diagnostics, drug delivery etc. Researchers feel eggshell-derived nanoparticles may be suitable for use in humans as they have tested biocompatibility of calcium phosphate cement made from eggshells as dental implants in preliminary studies in humans. However, eggshell-derived nanoparticles are yet to be tested in humans.

Using microwaves, scientists synthesized carbonated calcium deficient hydroxyapatite (ECCDHA) nanoparticles from egg waste. These nanoparticles are similar to human bone in mineral composition.

Research team at IIT-Madras.

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In order to check drug delivery efficacy of these nanoparticles, researchers compared them with synthetic hydroxyapatite nanoparticles and found them to be more efficient. They are better in loading and releasing drugs in a sustained manner compared to the synthetic nanoparticles. A higher drug-loading capacity means lesser quantity of nanoparticle material is needed for drug delivery.

The efficacy of these particles was analyzed using an antibiotic as a test drug. "Apart from their ability to deliver the antibiotic, eggshell derived apatite nanoparticles also showed higher amount of bovine serum albumin (BSA) protein delivery, which means they may be employed for delivering growth factors for bone regeneration", Prof. Sampath Kumar, who led the team, told India Science Wire.

In addition to drug delivery, the presence of ions like strontium, magnesium, fluoride and sodium in small amounts in these nanoparticles makes them potentially useful as graft materials for bone regeneration. “Since these eggshell derived particles are very similar to human bone with respect to their mineral composition, we propose that these may be potential candidates for bone substitutes and may be used for treatment of infections associated with bone loss,” said Kumar.

Hydroxyapatite is a major mineral base of human bone and is one of the most studied biomaterials for more than half a century. However, synthetic hydroxyapatite drastically varies from biological apatite found in human bone. It lacks the trace elements, which are highly essential for bone growth and remodeling. “Hydroxyapatite with chemical composition similar to biological apatite would be beneficial for bone applications”, pointed out Dr. M Ramalingam, co-author of the study.

The research team has tested eggshell derived calcium phosphate cements in humans. “Preliminary clinical studies with six patients have indicated clinical efficacy of eggshell derived cements in treating bone (dental) defects, demonstrating complete resorption with new bone formation”, Kumar said. These studies suggest that the eggshell nanoparticles have better physical and biological properties than synthetically derived ones.

The team included R. Jayasree, K. Madhumathi, Rakesh P. Nankar, Mukesh Doble, and T. S. Sampath Kumar at IIT Madras; Deepti Rana and Murugan Ramalingam from CMC Vellore. The study has been published in Journal of Nanoscience and Nanotechnology and was funded by the Department of Biotechnology

Date: 29th March 2018

Publication: The Hindu Business Line

Edition: Online

Journalist: Shikha T Malik

Students: R. Jayasree, K. Madhumathi, Rakesh P. Nankar, Mukesh Doble, and T. S. Sampath Kumar

**Headline: Eggshell-derived nanoparticles can be used for drug delivery**

URL: <https://www.thehindubusinessline.com/news/science/eggshell-derived-nanoparticles-can-be-used-for-drug-delivery/article23374075.ece>

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Date: 29th March 2018

Publication: Catch News

Edition: Online

Journalist: NA

Students: R. Jayasree, K. Madhumathi, Rakesh P. Nankar, Mukesh Doble, and T. S. Sampath Kumar

**Headline: Eggshell-derived nanoparticles can be used for drug delivery**

URL: <http://www.catchnews.com/health-news/eggshell-derived-nanoparticles-can-be-used-for-drug-delivery-105260.html>

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Date: 29th March 2018

Publication: Tech 2

Edition: Online

Journalist: NA

Students: R. Jayasree, K. Madhumathi, Rakesh P. Nankar, Mukesh Doble, and T. S. Sampath Kumar

**Headline: Scientists derive a way to synthesise nano-particles using eggshells for drug delivery**

URL: <https://www.firstpost.com/tech/news-analysis/scientists-derive-a-way-to-synthesise-nano-particles-using-eggshells-for-drug-delivery-4409801.html>

### **Scientists derive a way to synthesise nano-particles using eggshells for drug delivery**

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Representational image. Representational image.

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#### **Egg shell**

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Date: 30th March 2018

Publication: Scroll

Edition: Online

Journalist: Shikha T Malik

Professor: Prof. Sampath Kumar

**Headline: Lab notes: Eggshell-derived nanoparticles may be used for drug delivery and bone grafts**

URL: <https://scroll.in/pulse/873820/lab-notes-eggshell-derived-nanoparticles-may-be-used-for-drug-delivery-and-bone-grafts>

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Date: 30th March 2018

Publication: Eastern Mirror

Edition: Online

Journalist: Na

Professor: Prof. Sampath Kumar

**Headline: Eggshell-derived nanoparticles can be used for drug delivery**

URL: <http://www.easternmirrornagaland.com/eggshell-derived-nanoparticles-can-be-used-for-drug-delivery/>

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**IIT Madras is a innovation and  
entrepreneurship hub**

Date: 21st March 2018

Publication: The Hindu Business line

Edition: Online

Journalist: Dinesh C Sharma

Student: Ramesh Kumar and Swathy Ravindran

**Headline: Frugal, yet high tech, innovations that can change your lives**

URL: <https://www.thehindubusinessline.com/news/science/frugal-yet-high-tech-innovations-that-can-change-your-lives/article23304234.ece>

## **Frugal, yet high tech, innovations that can change your lives**

NEW DELHI, MARCH 20

A multipurpose and low-cost biological air purifier, a smartphone-based system for detection of cardiac biomarkers, a window solar cooker, a rolling water carrier-cum- purifier, buzzing bands for speech and hearing impaired, an augmented rehabilitation system for stroke patients, an eco-friendly water retention natural polymer, a rapid cervix cancer detection system and a social search engine.

These are among winners of Gandhian Young Technological Innovation (GYTI) Awards for 2018. The innovations and prototypes are on display at the Festival of Innovation and Entrepreneurship inaugurated by the President at Rashtrapati Bhawan on Monday.

GYTI awards recognize technological excellence imbued with social relevance among students from all over the country. Out of over 2,900 entries in 54 technology domains received from over 300 universities and institutions, 51 have been awarded this year. And 15 of them have got a research grant of Rs 15 lakh each to pursue their projects. The award winners come from IITs, Indian Institute of Science, central and state universities and research institutions.

The innovations span a large number of sectors— water and sanitation, early detection of communicable and non-communicable diseases, air pollution, technologies for differently abled, engineering and digital technologies. For instance, a team led by Divya Beri at Indian Institute of Science, Bangalore has developed a new strategy to block transmission of malaria, while Brince Paul and team from IIT Hyderabad has come up with a low-cost, disposable microfluidic chip diagnosis of malaria.

Debasmita Mondal and Sourabh Agarwal from IIT Bombay have developed a smartphone-based system for detection of two common cardiac biomarkers – myoglobin and myeloperoxidase. Technological innovations in agriculture sector include a novel technique to replenish micronutrients in soil using iron-capped nanomaterials. It has been developed by Pallabi Das and Kasturib Sarmah of Tezpur University. Ravi Prakash of National Dairy Research Institute, Karnal, has designed a low-cost milking and cooling plant based on Phase Change Material.

A few years back, a grassroots innovation of hippo roller – a rolling drum to transport water in rural area – had caught wide attention. Now Ramesh Kumar and Swathy Ravindran of IIT Madras have gone a step further – they have made the roller into a water purification system also. This means as water is transported in the roller, it will also get purified. The rolling water purifier designed by this team has an outer body to deal with mechanical forces and a polybag to store filled water which makes sure that



even if barrel body is broken or cracked, there are no water leakages. It purifies water as it is transported, using novel nanomaterials without any power requirement.

Neeta Ganesh Waghle and Priti Prabhakar Yewale from D Y Patil Vidyapeeth, Pune, have designed a biological air purifier which has a compact carriage assembly containing replaceable adsorbent packed in biodegradable pouches or wrappers. The natural biomaterials used as solid porous material act like an adsorbent. Since the material is recyclable, it reduces the cost. The purifier, according to the students, can be installed at the mouth of automobile exhausts. In tests done by them, it has been found that it considerably reduces levels of carbon monoxide, nitric oxide and nitrogen dioxide.

#### Window solar cooker

The window solar cooker designed by Avinash Prabhune of IIT Bombay looks pretty much like a microwave oven and it can be fitted into a window like an air conditioner. Unlike old fashioned, box-type solar cooker, this one has a cylindrical chamber that makes sure that it absorbs sunlight all through the day. It has a higher efficiency compared to box-type cookers and cooks faster. Prabhune says it can be idea for those living in multistoried buildings and those with a taste of 'slow food'.

#### Water absorbent polymer

The team of Narayan Lal Gurjar, Shashi Pratap Shekhawat and Ankit Jain of Maharana Pratap University of Agriculture Technology, Udaipur, has identified a natural polymer for water retention. While superabsorbent polymers that can absorb and carry water about 300 times their weight are commercially available, they are very costly and are not biodegradable. The team has developed a super absorbing material using orange and avocado peels. The material can retain large amounts of water and keep soil moisture high for crop.

The GYTI awards are given by National Innovation Foundation (NIF), Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI) and Biotechnology Industry Research Assistance Council (BIRAC).

Date: 21st March 2018

Publication: Tech 2

Edition: Online

Journalist: Dinesh C Sharma

Student: Ramesh Kumar and Swathy Ravindran

**Headline: Technological innovations in various sectors in India are changing lives: Report**

URL: <http://www.firstpost.com/tech/news-analysis/technological-innovations-in-various-sectors-in-india-are-changing-lives-4398551.html>

## **Technological innovations in various sectors in India are changing lives: Report**

NEW DELHI, MARCH 20

A multipurpose and low-cost biological air purifier, a smartphone-based system for detection of cardiac biomarkers, a window solar cooker, a rolling water carrier-cum- purifier, buzzing bands for speech and hearing impaired, an augmented rehabilitation system for stroke patients, an eco-friendly water retention natural polymer, a rapid cervix cancer detection system and a social search engine.

These are among winners of Gandhian Young Technological Innovation (GYTI) Awards for 2018. The innovations and prototypes are on display at the Festival of Innovation and Entrepreneurship inaugurated by the President at Rashtrapati Bhawan on Monday.

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