



INDIAN INSTITUTE OF TECHNOLOGY DELHI



AAIP

ALUMNI AFFAIRS AND INTERNATIONAL PROGRAMMES

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Quick Glimpse.....



Faculty Research Award



Lecture by Dr. Eric D. Green



Nobel laureate Prof Venkatraman "Venki" Ramakrishnan



Foundation Day



Sports News

IIT Delhi Celebrates Foundation Day

Indian Institute of Technology (IIT) Delhi celebrated its 61st Foundation Day on 27th January 2020. On this occasion, Prof. Gagandeep Kang, Executive Director, Translational Health Science and Technology Institute, Faridabad delivered the Foundation Day lecture on "Measuring What Matters in Public Health".



Faculty Reserach Award

On the occasion of 61st Foundation Day of IIT Delhi on 27th Jan 2020, following faculty members of the institute were honored with Faculty Research Awards 2019. Sulochana and Col. A Krishnaswami VrC, VSM** Faculty Research Award in the Category of Lifetime Achievement Award: Prof. Balakrishnan, Dept. of Computer Science & Engineering, IIT Delhi. Professor P.C.P. Bhatt Faculty Research Award in the Category of Basic Research Award: Prof. Amit Kumar, Dept. of Computer Science & Engineering, IIT Delhi. Professor K. L. Chopra Faculty Research Award in the Category of Applied Research Award: Prof. Ashwini K. Agrawal, Dept. of Textile and Fibre Engineering, IIT Delhi. Veena Arora Faculty Research Award in the Category of Early Career Award (Jointly): Dr. Rajendra Singh Dhakha (Dept. of Physics, IIT Delhi) and Dr. Samaresh Das (Centre for Applied Research in Electronics, IIT Delhi)



On the same day during the gathering in Seminar Hall all present observed a minutes silence as Condolence for Dr. M. K. Bhan.

Nobel laureate Prof Venkatraman "Venki" Ramakrishnan visits IIT Delhi; interacts with researchers, students

Nobel laureate Prof Venkatraman "Venki" Ramakrishnan visited IIT Delhi on 24th January and interacted with Prof V. Ramgopal Rao, Director, IIT Delhi; Prof A.K. Ganguli, Deputy Director and other senior functionaries of the institute.

Prof Ramakrishnan had shared the Nobel Prize in Chemistry in 2009 with Thomas A. Steitz and Ada Yonath "for studies of the structure and function of the ribosome. The Nobel laureate also visited Kusuma School of Biological Sciences, IIT Delhi where he interacted with Prof James Gomes, school's head; faculty, research scholars and students. He was elected President of the Royal Society for a term of five years starting in 2015. Prof Ramakrishnan began work on ribosomes as a postdoctoral fellow with Peter Moore at Yale University.

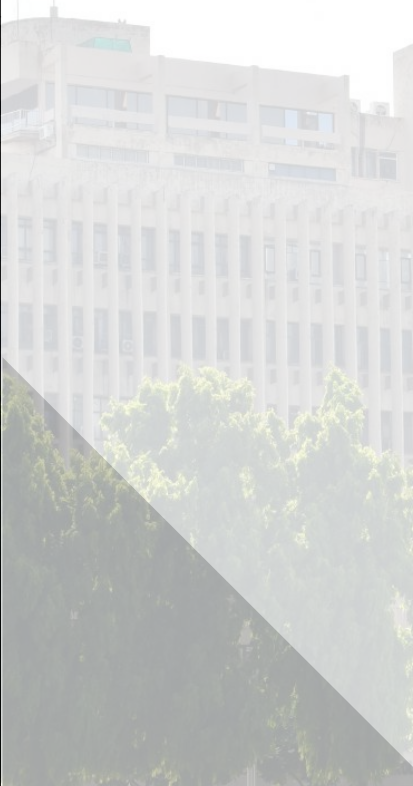
He continued to work on ribosomes from 1983-95 as a staff scientist at Brookhaven National Laboratory. In 1995 he moved to the University of Utah as a Professor of Biochemistry, and in 1999, he moved to his current position at the Medical Research Council Laboratory of Molecular Biology in Cambridge, England, where he had also been a sabbatical visitor during 1991-92 on a Guggenheim Fellowship.

IIT Delhi alumnus institutes scholarship in mother's name to support girl students

IIT Delhi alumnus Mr Mohit Kumar Jain (2002 Batch) has instituted "Pushpa Sankhla Scholarship" in his mother's name to support and promote UG girl students in the institute and to give back to his Alma Mater, IIT Delhi. Ms Priyanka Kumari, a student of Electrical Engineering, today became the first recipient of the Scholarship. On this occasion, Mrs. Pushpa Sankhla mother of Mr. Mohit herself handed over the scholarship to Ms. Priyanka alongside Mr Jain and family members in the presence of Prof. Sanjeev Sanghi, Dean, Alumni Affairs & International Programmes and other IITD officials. Scholarship will be awarded every year to one Under Graduate IIT Delhi girl student on a perpetual basis.

IIT Ph.D. Admission 2020: Applications invited for Joint PhD program by IIT Delhi, University of Queensland Australia

Indian Institute of Technology Delhi and the University of Queensland (UQ), Australia has invited online applications for IIT Ph.D. Admission 2020 from meritorious students. The students who will get selected will get the chance to study in both IIT Delhi and the University of Queensland (UQ), Australia. Students can also apply for the scholarship where the eligible candidates will get the monthly stipend of Rs 41,000 in the first year and Rs 45,000 in the third and fourth year. International students along with Indian students can apply for the IIT Ph.D. admission 2020. Selected students will spend their first year of study at IIT Delhi before completing one year (or more) at the University of Queensland, Australia. They would then complete the remainder of their studies at IIT Delhi.



IIT Delhi shows Technology interventions for heritage preservation

Students of Indian Institute of Technology Delhi (IIT Delhi) to address the pressing need for preserving cultural heritage digitally have come up with various technology interventions using Augmented & Virtual Reality (AR & VR), 3D printing, Artificial Intelligent (AI) and Internet of Things (IoT). IIT Delhi along with Department of Science and Technology (DST) has come up with International Heritage Symposium and Exhibition (IHSE) around the frequently articulated need for preserving India's rich cultural heritage digitally, for the future generations. Ashutosh Sharma, Secretary, DST said: "I have witnessed efforts in the field of digital preservation from last 5 years and this exhibition is a culmination of those efforts. Vizara Technologies, a start-up working in this space has made enormous strides by recreating our cultural heritage using AR, VR, MR and AI technologies etc. We all know that the future is all about the convergence of technology in all aspects of our life and this event is a step towards discussing some of the key issues that challenge us in preserving our heritage. I am of the view that we need to step up efforts significantly." The event has brought together for the first time in India, communities from such diverse disciplines such as science, technology, culture and social sciences who are engaged in conservation, preservation and management of world heritage in physical and digital space.

IIT Delhi delegation in Surabaya, Indonesia to promote ASEAN PhD Fellowship Programme announced by the Indian Govt.



CSC to partner IIT Delhi to empower rural students



Aimed at empowering rural students with access to quality education, Common Services Centre (CSC) has partnered with Japanese technology giant NEC Corporation and IIT Delhi. Beginning this endeavour, CSC, NEC Corporation and IIT Delhi jointly organized a hackathon on "Digitalising rural education" on 11th January 2020. In the hackathon, 30 teams selected from all over the country participated in brainstorming sessions organize to develop ideas to simplify education delivery to students living in rural India. Both CSC and NEC Corporation will jointly design and develop tools and products for rural students. "CSC's presence in every gram panchayat will help students to have access to these tools. In addition, CSC Chief Executive Officer Dinesh Tyagi said CSC has also opened 6000 educational academies in every development block, that aims to solve basic problems in education like the language barrier, dropout ratio etc.

IIT Delhi to launch online certificate courses this year

IIT Delhi is in advanced stage to develop a policy framework for launching online certificate courses for the industry. This will be part of the continuous learning offering of the institute to fulfil specialised technical needs of the industry.

Dr Mahim Sagar, Professor, Department of Management Studies and Head, Continuing Education Program (CEP) at IIT Delhi says these online courses will be different from Massive Open Online Courses (MOOCs) so as to maintain the exclusivity and the brand of IIT Delhi. He further added the certificate courses will have a cap on the number of enrollments and a qualification and work experience criteria depending on course requirements, Dr. Sagar says some courses might also have an entrance test which will be decided by the respective department. "These courses will be positioned as aspirational and exclusive online programmes to meet specific requirements of the industry. The focus will be on sectors such as AI, ML, telecom, banking, and engineering, among others.

26th Inter IIT Staff Sports Meet: IIT Delhi wins General Championship Trophy (Men)

Prof V. Ramgopal Rao, Director, IIT Delhi met the contingent leaders, team captains on 6 January 2020 and congratulated them for winning the General Championship (Men) trophy and medals in the recently concluded Inter IIT Staff Sports Meet 2019 at IIT Kharagpur.





Lecture by Dr. Eric D. Green - 'Entering the Era of Genomic Medicine'

Dr. Eric D. Green, MD, Ph.D, Director, National Human Genome Research Institute U.S. National Institutes of Health Bethesda, Maryland, USA delivered a special lecture 'Entering the Era of Genomic Medicine' on January 9th, 2020 at IIT Delhi. The Human Genome Project - a 13-year (1990-2003) quest to sequence all three billion bases ('letters') in the human genome - was one of the most significant scientific endeavors in history. The resulting human genome sequence has dramatically empowered the study of human biology and disease. Specifically, in the ~17 years since the Project's completion, spectacular advances in human genomics have created a foundation of genomic knowledge that is being used by researchers and clinicians to tackle increasingly complex problems in biomedicine. Of particular prominence is the use of revolutionary new DNA-sequencing technologies for generating prodigious amounts of genome-sequence data, which in turn are being used to elucidate the complexities of genome structure, function, and evolution, as well as to unravel the genomic bases of rare and common diseases. Meanwhile, impactful medical applications of genomics are now emerging. Together, these developments are ushering in the era of genomic medicine.

International Faculty @ IIT Delhi

Prof. Lucinda Elizabeth went to Dublin City University to do her undergraduation in Biotechnology. "This was a beautiful mixture of biology and engineering. Gradually she developed a keen interest in the topic and went on to pursue a PhD under Prof Enrico and Prof. Stefan Wuertz from Nanyang Technological University in Singapore. "During her doctoral research, she was endeavouring to find new bacteria that could produce electricity. The field has always fascinated her because it has great potential for application in terms of energy recovery and biosensors, and also provides fundamental insight into the extremes of microbial respiration. Her post doctoral research, again in the area of electromicro biology, focussed on observing the growth of bacteria under deep sea pressure to understand how electro active they were in such an environment. Lucinda joined IIT Delhi in July 2019.

And why did she decide to work in India? " Singapore has a large Indian population. I have many Indian friends and had even visited the country a few times. The transition has been easy and smooth. The working environment in IIT Delhi is very stimulating and I am learning new things. Everyone has been incredibly welcoming and my department has been very supportive ."

Currently Lucinda is focusing on setting up a lab that would conduct research on new bacteria for electricity generation. She is also taking a course in Microbial Biochemistry. She is a regular Yoga practitioner and also takes out time to meditate.

International Faculty@IITD



Lucinda Elizabeth Doyle

Department of Biochemical Engineering
& Biotechnology

Intellify's Education Conclave 2019 Held Successfully At IIT Delhi

The news of the importance of skill-based education and innovation & creativity in the Indian education system can reach far and wide. Education Conclave 2019 was organized by Intellify (a non-profit initiative run by the students and alumni of IIT Delhi) and NSS on 30th December 2019 at IIT Delhi. The event witnessed participation from over 800+ students, 100+ teachers, and 25+ policymakers, educationists and investors.

The event was followed by an award ceremony for students of the National level competitions. It was also accompanied by the launch of the higher-order thinking skill videos by IIT Delhi students across various topics and NCERT chapters which allow students to understand the concept in detail. Concluding the event, Intellify launched the National Creativity Program 2020 where students from more than 5,000 schools will participate to assess their skills and improve upon them in 2020.



INTERNATIONAL DELEGATIONS VISITED IIT DELHI



International delegations received at IIT Delhi

- A. KU Leuven Science, Technology & Engineering group, 06 January 2020.
- B. Tsinghua University, 08 January 2020.
- C. Wesleyan University, US, 10 January 2020
- D. City University Hong Kong, 16 January 2020

E



International delegations received at IIT Delhi

E. New York University, US, 21 January 2020.

F. UK Space delegation, 23 January 2020.

G. Prof. Dame Anne Jhonson, Vice President, International of the Academy of Medical Science, London, 28 January 2020.

H. Turkish delegation, 29 January 2020.

I. University of Illinois, 31 January 2020.

Transcribe Glass: An affordable assistive smart-glass

Tinker Tech Labs is a Startup in India recognized company incubating at IIT Delhi that aims to develop consumer assistive technology devices for people with disabilities. Their first product in development is Transcribe Glass, an affordable assistive smart glass for the deaf and hard-of-hearing that captions conversations on a heads-up display in real-time. The company two years ago started developing an Assistive Technology product called Transcribe Glass. Developing a hardware Assistive Technology device has come with its own challenges - finding the right mentors, guidance, facilities, access to parts and rapid prototyping resources, especially in India, has been an extremely difficult task. The company is now trying to raise further funding for product development, R&D and hopefully launch a beta product this year.



Med-Genie: A one stop destination for OTC medicines

Better Health Technologies India Pvt. Ltd., incubated at IIT Delhi has designed India's first of its kind smart technology driven product-- Med-Genie- a multi-dimensional platform that can provide over-the-counter(OTC) medicines, hygiene products for women and some healthy snacks.

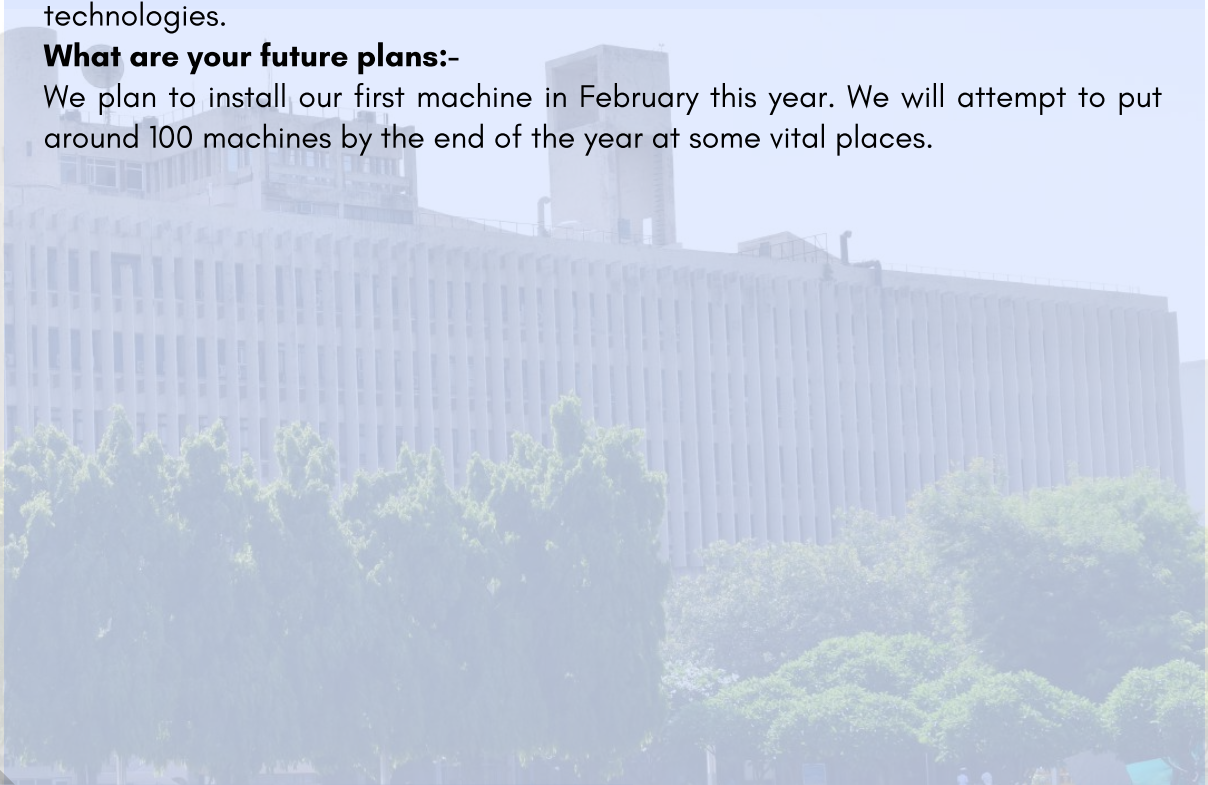
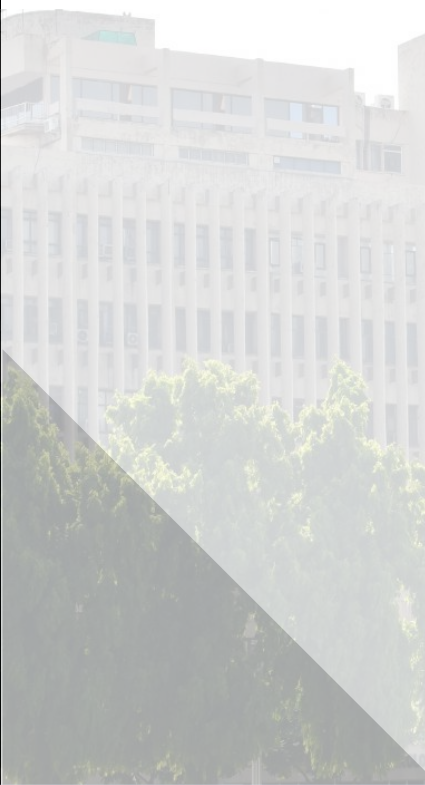
Co-founders Vikas Soni and Virendra Sharma talk to Dr Vanikta Srivastava of the Communication Cell about the challenges they faces in their startup journey and more.

When and how did you get the idea:-

We got this idea when we were doing our executive program in Business Modelling at IIT Delhi. There were many business ideas but we zeroed down on an idea for improving the public healthcare system. We wanted to revolutionize the way medicine of any form and type is dispensed along with value added offers and analytic. We strived to develop the product through some real cutting edge technologies.

What are your future plans:-

We plan to install our first machine in February this year. We will attempt to put around 100 machines by the end of the year at some vital places.



Okaya Partners With IIT Delhi for “VRFB” Battery Research

Okaya Power Group has announced that it has associated with IIT Delhi as an Industry Partner for a Vanadium Redox Flow Battery (VRFB) research project. Okaya Power Group (OPG), a leading battery and power backup products manufacturing company has announced that it has associated with IIT Delhi, the country's premier institution of engineering and technology for Vanadium Redox Flow Battery (VRFB) research project. Okaya Power is the Industry Partner of this project of IIT Delhi funded by the Department of Science and Technology, Government of India. The VRFB research project is aimed at developing small and medium scale energy storage devices which can play a pivotal role in meeting the future energy demands of the country. The scientists in IIT Delhi are involved in the design and development of VRFB, while the engineers in OKAYA are working on battery management system developed for this project. The project will altogether address the design of a one-of-a-kind battery pack exactly in-line with the requirement for home light systems specified by the Indian Renewable Energy Development Agency (IREDA) for Pradhan Mantri Sahaj Bijli Har Ghar Yojana - 'Saubhagya'. Anshul Gupta, director, Okaya Power said that determined to remain at the forefront of every technological innovation in the energy storage system, Okaya takes pride in associating with IIT Delhi for the VRFB research project.

Raised Line Foundation is opening new doors of learning for blind students

Raised Lines Foundation (RLF) is helping to address these barriers through a technology that uses 3D printing to produce tactile diagrams. Their aim is to open doors to new subjects and learning opportunities to blind students.

RLF was incubated after four years of research at the Centre of Excellence in Tactile Graphics at Indian Institute of Technology, Delhi (IIT-D). It is sponsored by the Ministry of Electronics and Information Technology, Government of India.

It was found out that there is no scalable and affordable means available for production of tactile diagrams in developing nations, hence diagrams were not available in the textbooks. Blind students are forced to leave subjects like mathematics, science, geography, in the higher secondary stage. Schools and institutions rely on manual-based interventions like threads, wires, and cotton for creating the diagrams. These are tedious and non-scalable. - Kunal Kwatra, Director, Raised Line Foundation



IIT-Delhi researcher develops low-cost "fabric feel tester"

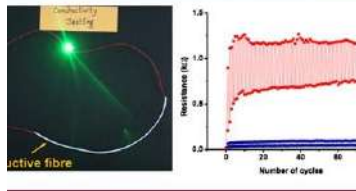
A researcher at the Indian Institute of Technology (IIT) here has developed a "fabric feel tester" at a cost nearly 100 times cheaper than the ones presently available in market. According to officials, a patent has also been filed for the instrument which has been developed by professor Apurba Das and his team with support from the government's department of science and technology. The instrument measures the subjective fabric feel perception and expresses it by an objective numerical value. Fabric feel is a generic term for textile sensations associated with fabrics. "The existing Kawabata Evaluation System of Fabrics (KESF) system used in the clothing industry is very complex and requires four different modules. The new instrument will not only measure fabric softness and feel directly but also help in selecting the optimum fabric finish treatment by comparing the feel," a senior IIT-Delhi official said.

Integrating electronics in textile fibre

A team of researchers at IIT Delhi has developed a technology for large scale development of textile fibres for wearable electro-optic devices. With the advancement in science and technology, there is rapid development in the area of electronics giving rise to a completely new horizon in this field which is now known as "Flexible Electronics". The devices which are much lighter and flexible can conform easily to the curvatures/shapes of the desired application in areas like biomedical implants, sensors, movement trackers, etc. Textile being highly flexible and their presence everywhere offers a tremendous possibility in the domain of flexible electronics. The team of IITD came up with the idea of integrating the electronics in the textile fibres/yarns. The unique feature of textile fibres is that apart from being highly flexible, there are some fibres that are intrinsically highly stretchable in nature. IITD in collaboration with IIT Guwahati is working on the development of a highly strong, flexible, stretchable, and electrically conducting polymeric fibres. The project is a part of the Uchhatar Avishkar Yojana (UAY) that was announced by the government on October 6, 2015 with a view to promoting innovation of a higher order that directly impacts the needs of the industry and thereby improve the competitive edge of Indian manufacturing. The project aims at the development of commercially viable technology that can produce these fibres with enhanced electrical conductivity in the relaxed as well as highly strained conditions.



INTEGRATING ELECTRONICS IN TEXTILE FIBRE



Converting Waste Biomass to Medicine (A great solutions for farmers)

The Renewable Energy and Chemicals (REC) Research group at the Department of Chemical Engineering, IIT Delhi led by Prof. Ali Haider has devised ways to provide solutions through an integrated bio- and chemo-catalytic process in which waste biomass is fermented to produce a platform chemical, which is further upgraded via a simple catalytic transformation to produce a desired high value chemical. Dr. MD. Imteyaz Alam and Mohammad Wasi Akhtar have demonstrated a green, sustainable and robust route to produce Warfarin and similar drugs with high yield (>90%) from 4-hydroxycoumarin (4HC), which is a 2-pyrone platform chemical synthesized from the fermentation of waste lignocellulosic biomass with an economic incentive, the farmers who burn waste agricultural residues will now have a choice to ferment it and produce platform chemicals such as 2-pyrone molecules, which can be processed in a bio-refinery to produce the desired medicine and other high value chemicals.



Irrigation brings down temperatures and reduces monsoon rainfall: IITD study

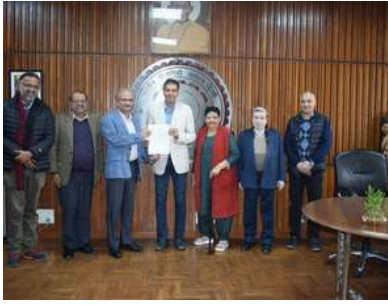
A team of researchers from the Centre for Atmospheric Sciences at the Indian Institute of Technology in Delhi used computer simulations to study the impact of irrigation on Indian climate. However, a new modeling study conducted by Roshni Mathur and Prof. Krishna Achuta Rao of the Centre for Atmospheric Sciences (published in the journal *Climate Dynamics* in December 2019) shows that this might be coming at a cost in terms of its detrimental effect on the monsoon – which is in many ways the life and blood of Indian economy. Using a state of the art climate model (Community Earth System Model) they carried out simulations on the IIT Delhi Supercomputer Padum to study the impact of irrigation on India's climate." By varying the amount of irrigation water use in the model and comparing it to simulations without irrigation, the study explores the effect on temperatures as well as rainfall during the summer monsoon season over India. The most heavily irrigated regions of the Indo-Gangetic plains show a temperature decrease of nearly 3-4 °C, with the rest of India showing smaller decreases," says Prof Krishna Achuta Rao.



IIT Delhi alumnus donates ₹1 crore to set up chair in quantum computing

IIT Delhi has over 50 Chair faculty positions which are supported from various sources Prashant Gupta is a 1995 batch alumnus who studied computer science engineering IIT Delhi.

Prashant Gupta of the Indian Institute of Technology here has donated ₹1 crore for the creation of a chair in quantum computing at the prestigious institution in the name of his mother and elder siblings. The chair, called 'Uma-Puruskar-Liril Gupta Chair in Quantum Computing. The purpose of setting up the chair is to promote excellence and leadership in teaching and research development in the area of quantum computing and high-performance computing. The primary emphasis will be given to quantum computing, which focuses on developing computer technology based on the principles of quantum theory. Mr. Prashant Gupta said "While Uma is my mother's name, Puruskar and Liril are my elder brother and sister and I have made the donation for setting up a chair in their name to express my gratitude to the three of them as well as my alma mater as they helped me extraordinarily in my formative years," he said. The MoU for setting up the chair has been signed by V Ramgopal Rao, Director, IIT Delhi and Gupta. We have over 50 Chair faculty positions at IIT Delhi right now supported from various sources. The primary selection criteria for the chair will be an excellent research profile in the area of quantum computing.



ReNew Power Secures \$450 Mn Funds Through Dollar Bonds

Mr. Sumant Sinha Alumnus of IITD (B.Tech, 1987 Batch) ReNew Power will invest \$65 Mn for expanding operations according to its roadmap. The company was involved in one of the biggest funding deals in 2019 with a \$350 Mn fund raise. ReNew Power is India's largest independent power producer in clean energy. Continuing its streak of big investments, clean energy startup ReNew Power has raised \$450 Mn funding through a dollar bond issuance. ReNew Power is planning to use this funding to refinance its previous borrowing, which will be maturing next year. Moreover, \$65 Mn of the funding will be used to meet its future capital requirements.

Sachin Bansal Commits Up To \$450 Mn For Navi To Fulfil Digital Banking Vision



Flipkart co-founder Sachin Bansal seems to be putting everything at stake for the success of his new venture Navi Technologies. According to media reports, he is likely to invest all the proceeds from the sale of his stake in Flipkart into the financial services company. I am putting almost all of mine (money) – that is going to happen in the next few days or weeks, whatever is left after Ola investment. While Mr. Bansal did not reveal the exact numbers, it could be anything between \$400 Mn and \$450 Mn. This is also seen as one of the biggest capital infusions by a promoter into a new fintech venture. After his departure from Flipkart, Bansal, along with Ankit Agarwal, founded Navi Technologies in December 2018, which was earlier called BAC Acquisitions.

Vizbee Robotic Solutions Finish 4th in Airbus Global Challenge

Airbus defence and space launched the “Global Earth Observation Challenge” in August 2019. This was a 4 month event started with the purpose of encouraging startups ,worldwide to innovate and develop new applications based on airbus satellite data and to produce ground breaking solutions to the existing problems on Earth.

Vizbee Robotic Solutions Private limited is an early stage start-up founded by Ayush Jindhal (BTech Industrial Production batch 2019). He is presently a design innovative fellow at IIT Delhi working under the guidance of professor Sumantra Dutta Roy.

Vizbee Robotech Solutions participated in the 4 month long event and finished in an incredible 4th position out of the 140+ startups which took part from 44 different countries. Vizbee has already been named as one of the best startups to work at in 2020 by Globusoft.

Shadowfax Raises Rs 430 Crore in Funding Led by Flipkart



Logistics firm Shadowfax has raised around Rs 430 crore in a funding round led by e-commerce player Flipkart. Eight Roads Ventures, NGP Capital, Qualcomm Ventures, Mirae Asset Naver Fund, and the World Bank-backed IFC also participated in the funding round, as per a joint statement by Shadowfax and Flipkart.

Shadowfax CEO Abhishek Bansal (B.Tech., Production and Industrial Engineering, 2012) said with this capital infusion, Shadowfax plans to invest extensively in building long-term capabilities, which are essential to developing an efficient and superior service quality ecosystem in Indian logistics. This strategic integration with Flipkart and its global best practices will not only unlock huge opportunities for Shadowfax but will also enable them to innovate with the largest online platform in India and build core capabilities that can be democratized for the larger logistics ecosystem.

GIVE BACK TO IIT DELHI (January 2020)

Uma - Puruskar Liril Gupta Chair Rs.-1 Cr.

1979 Batch Ruby Reunion-89.59 Lakhs

1982 Pearl Reunion Endowment Fund Rs.- 13 Lakhs*

*Received in Endowment fund by Mr. Sachin Bansal
Rs.-25 Cr.*

CSE Chandruka Doctoral Fellowship Rs.- 10.72 Lakhs

Each One Teach One Rs.- 7.02 Lakhs

Dr. Amrik Singh Award Rs.- 5 Lakhs

B. S Haleja Memorial Scholarship Rs.- 50 Thousand

Save the date

*Golden Jubilee Reunion
(Batch 1970)*

28 November 2020