Patent filing by IIT Bombay up by nearly 400%, students major contributors

Written by Mihika Basu | Mumbai | February 3, 2014

Almost all the patents filed by IIT Bombay have student contributors.

While patents are considered indicators of innovation and technological capability for an academic institute, IIT Bombay has shown massive growth in this parameter since 2008. In 2012-13, 94 patents were filed and Indian trademark and design and copyright registered, a rise of nearly 400 per cent from 2008-09, when 19 were filed. In the ongoing 2013-14 academic year, 89 patents have been filed already.

According to the office of the dean, research and development (R&D), almost all the patents filed by IIT Bombay have student contributors.

Prof Krithi Ramamritham, former dean of research and development at IIT Bombay, said the rise can be attributed to the fact that the R&D office has been diligently going after new findings, both from faculty and students, rather than waiting for someone to approach them.

“The abstracts of the reports of MTech project work are being assessed by the R&D office personnel every year and shortlisted work is being reviewed in consultation with researchers for possible filing of patents. Further, the start-up culture has also improved over the years,” he said.

Figures indicate that 223 Indian patents have been filed from 2008-09 till 2012-13, while the number of US patents filed during the same period stands at 46. In 2012-13, 70 Indian patents, six US patents and one patent each were filed in Brazil and EU.

The total number of Indian and US patents granted from 2008-09 to 2012-13 is 37. Overall, the number of patents, design and copyright granted during the same period is 60.

A source in the R&D office said several reasons can be attributed to this growth. “An in-house professional patent search facility has been set up with access to inventors to assess the novelty of their work. An increased panel of attorneys is available to help with IP filings of patents, copyrights, designs and trademarks. Orientation
on IP issues are made to undergraduate and postgraduate students. Workshops and seminars are also conducted,” said the source.

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India woos world-renowned scientists to boost research
Prime minister announces 25 Jawaharlal Nehru Fellowships
Kalyan Ray
JAMMU: Bereft of front line research, India now woos Nobel laureates and Fellows of Royal Society with a lucrative financial offer to mentor Indian students and spur fundamental research in Indian institutions hoping to rise up in global scientific achievement scale.

Five of the world’s top scholars—all Fellows of the Royal Society—have accepted India’s offer and the search is on for 20 more, including Nobel laureates active in research.

The government has instituted 25 Jawaharlal Nehru Fellowships, under which eminent scientists from abroad are invited to work in India for 12 months spread over a three-year period,” Prime Minister Manmohan Singh said while inaugurating the 101st session of the Indian Science Congress here.

The fellowship comprises $100,000 for scientists in addition to a Rs 55-lakh grant. Moreover, the host institute will receive Rs 10 lakh to support the facility and infrastructure needed for the programme. Top line Indian research is currently restricted to less than 50 institutes. Besides Nobel laureates and FRS, members of the French Academy of Sciences and US Academy of Sciences are eligible for the fellowship. The selection is made on the basis of nomination followed by scrutiny of a top-level panel comprising Indian FRS like CNR Rao and Radhakrishna, there is no bar on age and nationality. “We received 162 nominations, out of which only five have been selected. The benchmark has been kept high,” T Rama Rao, Secretary to the department of science and technology, told Deccan Herald.

They are M Vidyasagar from the University of Texas, Srinivas Kulkarni from California Institute of Technology or Caltech, Trevor Platt at the Bedford Institute of Oceanography, Srinivas Varadhan from New York University and Azim Surani from the University of Cambridge.

At the first science congress held in the conflict-ridden state, Singh announced projects worth Rs 11,000 crore, including a Rs 4,500-crore national mission on high performance computing and a Rs 3,000-crore National Geographical Information System that seeks to improve land use planning with satellite-based scientific information.

The supercomputing mission will be implemented by the Indian Institute of Sciences in Bangalore.

Singh also announced the shifting of one of the major physics experimental facilities from the United States to India.

“In the gravitational wave experiment, India intends to host the third detector,” he said, one and a half years after the US approved the relocation, reported first by Deccan Herald.
PM outlines science R&D projects with an outlay of ₹9,000 crore

Jammu, Feb 3

A major boost to scientific research and development, Prime Minister Manmohan Singh on Monday announced projects including a National Mission on High Performance Computing and a Neutrino-based Observatory in Tamil Nadu with an outlay of about ₹9,000 crore.

Asserting that government has invested in several areas to ensure that India remains at the cutting edge of science, he also announced that India is joining the CERN institute, a premier European organisation for nuclear research, as an associate member.

Addressing the Indian Science Congress for the tenth year in succession, Singh said India needs to leverage the ability of modern science to deliver value to society. “We must also seek global leadership in at least some research and development areas. Affordable innovations for human healthcare, sustainable agriculture, clean energy and total solutions for water-related challenges are some areas where Indian science can seek global leadership,” he told delegates to the Congress.

The inauguration of the 5-day meet was attended among others by science and technology minister S Jaipal Reddy and Jammu and Kashmir chief minister Omar Abdullah.

With “Innovations in Science and Technology for Inclusive Development” as its theme for this year’s Congress, the five-day meet is being attended by around 500 scientists from India and abroad, two Nobel laureates Lee Y T and Ferid Murad.

Former President A P J Abdul Kalam and principal scientific advisor to the government of India Avinash Chander will be among those who deliver lectures.

The PM said the national mission on high performance computing with an outlay of ₹4,500 crore and considering establishment of national geographical information system with an outlay of ₹3,000 crore.

Announcing that India will partner the international scientific community in the establishment of some of the world’s major R & D projects, he said in the gravitational wave experiment, India intends to host the third detector.

A Neutrino-based observatory is proposed to be set in Tamil Nadu at a cost of ₹1,450 crore. India is also joining the famous CERN Institute as an associate member.

After some controversy over the proposal to locate the Neutrino Observatory in the Nilgiris following fears of environmental damage, the observatory is now proposed to be set up in the west Bodhi hills of Tamil Nadu.

Indian Neutrino Observatory (INO) is a proposed particle physics research project to study atmospheric neutrinos.

Singh said India intends to host the third detector in the Gravitational Wave Experiment. He also said Indian nuclear scientists were attracting global in their effort to develop a Fast Breeder Reactor. “I expect the prototype under construction in Kalpakkam to be completed this year.”

“It will be a great day for Indian science and technology because we will be one of the few countries in the world with leadership in a completely new area of nuclear technology that can contribute non-polluting electrical power.”

Pitching for more funds to promote science, Prime Minister Manmohan Singh today said the country’s annual expenditure on science and technology should be at least two percent of the GDP. PTI
Prime Minister Manmohan Singh and J&K Chief Minister Omar Abdullah at the 101st Indian Science Congress, in Jammu on Monday.

In PM’s push for more funds to science & tech, a Rs 9,000-crore boost to R&D

ARUN SHARMA
JAMMU, FEBRUARY 3

Prime Minister Manmohan Singh on Monday gave a boost to the country’s research and development (R&D) works by announcing scientific projects worth over Rs 9,000 crore. In his inaugural address at the 101st Indian Science Congress, in Jammu, the Prime Minister emphasized the need for increasing the annual expenditure on science and technology to at least two per cent of the GDP and urged the corporate sector to join hands with the government in realising the goal.

Among the projects announced by Singh were National Mission on High Performance Computing with an outlay of Rs 4,500 crore, setting up of a National Geographical Information System with an outlay of about Rs 3,000 crore and a Neutrino-based Observatory in Tamil Nadu at a cost of about Rs 1,450 crore. A National Mission on Teaching will also be launched to enhance the esteem of teachers, he said.

Stating that India will partner with the international scientific community in the establishment of world’s major research and development projects, Singh announced that the country will join the European Organisation for Nuclear Research (CERN) as an associate member.

He also referred to the global interest in the effort of the country’s scientists to develop a fast breeder reactor and added that he was hopeful that the prototype, currently under construction in Kalpakkam, will be completed this year. “It will be a great day for Indian science and technology because we will be one of the few countries in the world with leadership in a completely new area of nuclear technology that can contribute non-polluting electrical power,” Singh told the delegates attending the congress.

Referring to the advances made in the field of meteorology, especially the accurate forecast of the site of landfall during the recent cyclone in Orissa, Singh said, “I would also like to see the continuous improvement in our monsoon prediction capability through the recently launched Monsoon Mission so that we avert the kind of calamities that we saw in Uttarakhand last year.” He also referred to the establishment of a new department for Health Education and Research, saying the development of rotavirus vaccine, a new drug for malaria and many other leads emanating from the collaborative research are all reassuring developments.

Singh emphasized on launching a national drive for an ‘Ever-Green Revolution’ so as to ensure food security, besides improving land and water productivity. The use of bio-technology has great potential to improve yields, he said, adding that while safety must be ensured “we should not succumb to unscientific prejudices against BT crops”.

Affordable innovations for healthcare, sustainable agriculture, clean energy and total solutions for water-related challenges are some areas where Indian science can seek global leadership, he said. “Our basic research must be directed to make new discoveries with innovative efforts to develop affordable solutions,” the Prime Minister added.
A delegate displays a model of Lakshya, high speed target drone system developed by Defence Research and Development Organisation (DRDO), at the 101st Indian Science Congress in Jammu on Monday.

101st Science Cong unveiled in Jammu

MOHIT KANDHARI JAMMU

Lauding Indian scientists working in the fields of atomic energy, space and earth science Prime Minister Manmohan Singh on Monday said that the country's annual expenditure on science and technology should be at least two per cent of the GDP in order to promote science.

Singh said India had occupied an "enviable position" in these fields and Indian scientists are attracting global interest in their effort to develop a Fast Breeder Reactor. "I expect the prototype under construction in Kalpakkam to be completed this year."

Addressing the inaugural session of the 101st Indian Science Congress in Jammu University, Singh said, "It will be a great day for Indian science and technology because we will one of the few countries in the world with leadership in a completely new area of nuclear technology that can contribute non-polluting electrical power."

He said, "We must increase our annual expenditure on science and technology to at least 2 per cent of GDP. This has to come from both Government and industry."

"In countries such as South Korea, where a high percentage of the GDP goes to science, the contribution of industry is significant," Singh noted. The Prime Minister also said that India is joining the CERN, a premier European Organisation for Nuclear Research, as an associate member.

The Prime Minister also announced a national mission on high performance computing with an outlay of ₹4,500 crore.

Jammu & Kashmir Governor NN Vohra, Union Minister for New and Renewable Energy, Farooq Abdullah, Union Minister for Science and Technology, S Jaipal Reddy, various Members of J&K Council of Ministers, Parliament Members, Legislators, J&K Chief Secretary, Mohammad Iqbal Khanday, Union Secretary Department of Science and Technology, and students were present on the occasion besides others.
Indian students to spend up to $700m on higher studies in US

After China, India will continue to send most students till 2024

SANGEETHA G
Chennai

THE financial contribution of Indian students doing higher studies in the US is estimated to go up to about $700 million by 2024 from $400 million. However, India will continue to occupy the second slot as a source of international students for the US after China.

Around 103,000 Indian students are engaged in under-graduate, post-graduate and other speciality courses in the US. As per various estimates by various organisations, this is projected to increase to 153,000 in 2024. “By 2024, the number Indian students should be up by 50,000. The financial contribution of these students is around $400 million, which includes academic and living expenses. This can go up to $700 million by 2024 if the currencies remain at the same level,” said Mark W Harris, president and CEO of US-based ELS Educational Services.

However, India will still be the second largest source market for US after China. Currently 135,000 Chinese students are pursuing various courses in the US and the number is projected to grow to 190,000 by 2024. According to Harris, since the US liberalised the visa norms for Chinese students in 2007, their number has been growing fast. One the other hand, India, which used to send the largest number of students, has been slow since 2011.

The declining number of domestic students getting enrolled in higher studies is making US universities look for more international students. “The University-going population is on a decline in the US after having touched the peak in 2012. The number domestic students in various universities would have come down by 200,000 in the past few years. The slowing economy, limited federal support for higher education and the higher levels of unemployment too has been resulting in a decline in the number of domestic students,” said Harris.

ELS Educational Services, which provides English language preparation and professional counseling for international students in 102 countries on behalf of universities in the US, Australia, Europe and Malaysia, has become active in India.

“Indian students do not need English training. So our focus in India will be on providing counseling on various courses and acclimatising the students to the US conditions. About 30,000 Indian students go to the US for higher studies every year. Our target is to serve at least 10 per cent of them by 2018,” said Mallik Sundaram, regional director of recruitment in south and south east Asia, ELS Educational Services.

Moreover, US universities find Indian students better qualified academically for various programmes. “India is an important partner for the US in the space of higher education, especially research, science and technology, engineering and mathematics. Indians settled in the US have extensively contributed to various businesses and we hope that the bilateral relations will get even closer,” said Harris.

ELS operates centres in the campuses of over 55 Universities in the US. Apart from Australia, it is also ramping up its presence in the Europe and Malaysia.
Soon, phones won’t need batteries

Scientists Developing Tech To Help Mobiles Draw Power From Wi-Fi, TV

Brian X Chen & Nick Bilton

San Francisco: The next breakthrough smartphone, or maybe the one after that, might not have a traditional battery as its sole source of power. Instead, it could pull energy from the air or power itself through television, cellular or Wi-Fi signals.

Engineers at Apple even tried for many years to build a smarter battery by adding solar charging to iPhones and iPads, a former Apple executive said. And they have continued to experiment with solar charging, two people who work at the company said. Batteries, long the poor cousin to computer chips in research-obsessed Silicon Valley, are now the rage.

As tech companies push their businesses into making wearable devices like fitness bands, eyeglasses and smart watches, the limitations of battery technology have become the biggest obstacle to sales and greater profits.

Consumers are unlikely to embrace a wristwatch computer like the one being worked on by Apple, or Google’s smart glasses, if they work only a few hours between charges and must be removed to be plugged in. So the race is on — both to find alternatives to the traditional battery and to discover ways to make battery power last longer.

Consumers are going to say, “Give me a better battery because it doesn’t last long enough,” said Mujeed Ijaz, chief technology officer at A123 Systems, a company that makes batteries for electric cars and invests in start-ups that are developing new battery technologies.

“That need wasn’t there five years ago,” he continued. “Now it’s a matter of the market and the developers coming together and saying, what is the need and how many R&D dollars do we put in?”

Although computer chips have doubled in speed every few years, and digital displays have become significantly brighter and sharper, battery technology is largely stuck in the 20th century. Device makers have relied on incremental improvements to battery power, now usually supplied by a decades-old lithium-ion concoction, in combination with more energy-efficient chips and screens.

The problem, in part, is that it is hard to ensure the safety of many new power technologies. A faulty battery could potentially turn into a miniature bomb. So the products require exhaustive testing by regulators before hitting store shelves. Even if a new power system is approved, it often requires adoption by reputable brands like Apple, Samsung or Microsoft before every everyday consumer starts to trust it.

Some in Silicon Valley, like Tony Fadell, the former Apple vice president who led iPod and iPhone development, think it is smarter to focus on improving batteries and other components by taking small steps, rather than trying to reinvent the battery itself. “Hoping and betting on new battery technology to me is a fool’s errand,” said Fadell, who is now the chief executive of Nest, which makes household technology and was bought by Google last month. “Don’t wait for the battery technology to get there, because it’s incredibly slow to move.”

Researchers at the University of Washington have been working on a method for wireless devices to communicate without using any battery power. The technique involves harvesting energy from TV, cellular and Wi-Fi signals that are already in the air, said Shyamnath Gollakota, an assistant professor of computer science and engineering who is working on the project.

“The idea is basically you have signals around you,” Gollakota said. “So why do you have to generate new signals to communicate?”

In a commercial smartphone, a battery would still be necessary for powering the screen and other functions, but the signal-harvesting method would allow phone calls or text messages to be placed without using any power, he said.

At Google, building a better battery is so important that the quest goes all the way to the top. During an earnings call last year, Larry Page, Google’s chief executive, said battery life on mobile devices, including tablets and smartphones, was prime for reinvention.

“There’s real potential to invent new and better experiences,” he said. NYT NEWS SERVICE
‘16 Padma awards for science strong message for youth’

Vanita Srivastava

JAMMU: The fact that as many as 16 Padma awards have been given to science this year should encourage and attract young minds to the field, feel scientists.

“It sends out a very strong message to the young scientists of this country,” Dr CNR Rao, recipient of Bharat Ratna award told HT.

Dr R A Mashelkar, who is one of the recipients of Padma Vibhushan said, “The fact that a Bharat Ratna has gone to a scientist will attract young brains to the field of science.

The Science, Technology and Innovation Policy(STI) 2013, which aspired to position India among the top five global scientific powers by 2020, was released at the centenary session of the Indian Science Congress in Kolkata last year.

“It is a very ambitious goal. It aims to produce and nurture talent in science, to stimulate research in our universities and to develop young leaders in the field of science,” said a senior scientist who is participating in the science conclave.
Union HRD Minister Dr. Pallam Raju Says Value Education a Collective Responsibility of all in the country

http://www.indiaprwire.com/pressrelease/education/20140203288674.htm

Indus Trust Leadership Symposium draws discussion on bolstering Value Education System in schools to redress Leadership crisis. Union Minister Dr. Pallam Raju keynote highlighted positive ways forward in meeting the challenges to build world class national education eco-system that will foster Leadership. He also stressed the need for a national effort and Inculcate documenting experiences. The national skill development corporation, he said will catalyze sense of confidence. He also said that the nation must tap the armed forces ex-service men services to strengthen the eco-system

Dr. Pallam Raju, Union HRD Minister along with CEO of Indus Trust and other prominent leaders at the...

Hyderabad, Andhra Pradesh, February 3, 2014 /India PRwire/ -- At the Indus International School Annual Leadership Symposium held at the Park Hyatt hotel in Banjara Hills, speakers from varied sectors shared their perspectives on defining the leadership gap in our country and in their industry, and made specific recommendations on what schools can do to redress the imbalance. They voiced concern that in the private sector, only about 25% technical and management graduates are employable by MNCs and premier corporations.

The day long Leadership Symposium deliberated ways to strengthen the 'Value Education in Schools' through a series of panel discussion and talk by prominent thought and opinion leaders from different walks of life. They were at the opinion that "School Education is the Long-Term answer for Redressing the Leadership Crisis."

The symposium began with the Opening speech by CEO of Indus Trust Gen. Arjun Ray followed by an inaugural address by Guest of Honour, Justice B Subhashan Reddy, Lokayukta of Andhra Pradesh. Dr. Pallam Raju, Hon'ble Union Minister for HR delivered the keynote address.

In his opening remark Gen. Arjun Ray, CEO of Indus Trust said we must take concrete actions to promote Value Education in Schools and articulate a vision. Gen Ray presented his arguments and a blueprint for action in his speech. We believe that a failed school education policy over decades is primarily responsible for retarding India's development and modernization.

Gen. Ray in his talk said future competition will not be between competing technologies, competing economic systems and competing political ideologies, it will be between competing education systems. In this fierce struggle, schools are the battlegrounds where we have been failing systematically. Schools are where values are built brick by brick and this has not happened and we are paying the price for it resulting in corruption and the failure of leadership.
General Ray also announced a cash award for the most innovative 'Citizen Idea' award to Redress Leadership Crisis for Schools. Entries for this award are open for all citizens and the best idea will receive the award from Indus Trust.

In his keynote address Dr. Pallam Raju said schools at all levels must enlighten the students of the challenges going forward which must also include a good value system. At the Government level we will continue to encourage schools and other settings to collaborate with each other to realize national education vision.

In a panel discussion that followed moderated by Dr. V. Raghunathan, Chief Executive Officer, GMR Varalakshmi Foundation which deliberated strategies to build Value-Education in Schools, the panelists voiced wide ranging opinions and perspectives. They stated such symposium bring open public discussion on some of the unique issues facing schools, students, parents, and teachers and can bolster the argument for betterment of our schools and education system.

The panelists consisted of eminent personalities such as Dr. Kiran Mirchandani, Professor, Adult Education and Community Development Program, Ontario Institute for Studies in Education, University of Toronto, Canada, Dr. Jayaprakash Narayan, President, LokSatta Party, and Lt. Gen. Arjun Ray, CEO of the Indus Trust.

An interesting addition to this Leadership Symposium was a session called Citizen's Voice by Padma Shri Dr. S Subramanian, IPS (Retd). This was followed by Social Perspective talk by Prof. and Padma Shri Ms. Shanta Sinha. Mrs. Sarojini Rao, Principal, Indus Bangalore spoke about the Educational Perspective and then Dr. Gullapalli N. Rao, Chairman, L. V. Prasad Eye Institute spoke about the Professional Perspective focusing on the topic of the day. "School Education is the Long-Term answer for Redressing the Leadership Crisis."

These speakers emphasized in order to bring change; we first need to understand the current mental model of school and classroom organization. They said it is important for schools; teachers and parents to not only motivate children to follow a value system but also make it possible for them to do so.

Expressing their views about the Leadership Symposium the participating students said the leadership symposium gives us to think for a moment about our best teachers and most inspiring leaders - the ones who challenged you to be better than you thought possible. It also gives us a thought to ponder did our environment at home and schools equip us with the most efficient way to learn many things, or did they provide essential insights that helped you make sense of what you learned?. It is also inspiring to listen to leaders from different walks of life that shaped their lives.

Omkar Joshi, Principal of Indus International delivered the Vote of Thanks.

Indus International is the first IB School established in Hyderabad, acknowledged for their unique education systems that combine public service enrolls students from throughout the world.
Techkriti, the annual international Technical and Entrepreneurial festival of Indian Institute of Technology, Kanpur is being organized in its 20th version from 6th March 2014, Thursday to 9th March 2014, Sunday here at the IIT campus, Kanpur, Uttar Pradesh. With its theme as "Virtually Progressing World", Techkriti aims at making this world a better place to live. Last year Techkriti set on a path to fix the planet in their small way and they made it seem big. For most it would be the end of the road, but for them, it had just begun. This time, whilst Techkriti ’14, the team’s efforts, their work and their thoughts are all towards ensuring one simple goal - help the society as much as possible, in any way possible, however small or big. They may provide education for a 100 kids, plant hundreds of plants, run campaigns for equality of men and women, or hold a competition to find out the best talent that our society has to offer. The festival is aimed at reduction of carbon footprint of country, preservation of environment and promotion of sustainable development and it encourages participants as well as audience to participate in the same.
In its quest to improve the standard of living in the world and in India in particular, Techkriti has taken up various social initiatives.

- **PRAKRITI**: Plantation drive as a part of our efforts towards sustainable development, and preservation of our ecology. It is also aimed at creating awareness about general environment problems among the public.
- **Make A Wish**: A campaign in which we will ask each child of an orphanage to 'Make A Wish' and would give our best to fulfill those wishes via donations from benevolent public. We believe the dreams and wishes are what drive a child to endeavor to aim high and bloom into a responsible and contributing citizen.
- **Uttarakhand Collection Drive**: A flood relief collection drive for the survivors of the tragic natural disaster that struck Uttarakhand. We collaborated with Goonj, an NGO working in this field and sent basic essential commodities to the disaster affected region.

**It's your time to make a difference.**

They need our help
&
even a small effort counts.

**Women Empowerment**: Our aim is to change the mindset of the people by making women self-dependent as well as by making men realize the rights of women and their importance. Some efforts in this direction are:

- **Swagatagmi**: A workshop to train under-privileged women to earn their living by making daily use products from bamboo leaves. This will give them a partial level of independence.
- **Men Let's Talk**: A videography competition encouraging men to be responsible, remove any gender bias, stop violence against women and come hand in hand with women giving them freedom.
- **SOCCON**: Event which requires participants to come up with environment friendly and sustainable solution to real world problems.

**Health Care**: There have been several efforts to improve the living status of people. Some of them are :

a. **Raktarpan**: Organizing a blood donation camp to ensure that blood is available for any patient in need. Two blood donation camps are to be organized in the period of January.

b. **Swagatgami**: Techkriti in collaboration with some design students is trying to design some innovative equipment and accessories which will help physically disabled people to live a normal life, such as an app to help deaf people.
c. **Eduvate**: A social-cum-technical competition where you have to design an app to help disabled children in process of learning. There are several categories in which one can submit this app, for example: an app to smoothen the learning process of a child whose brain is comparatively less developed when compared to normal students.

d. **Green Media**: This is an online photography event aimed at publicizing environment related problem, where participants will come up with innovative ideas to publicize environment problems and suggest possible solutions.

e. **28 states**: An event designed specifically to bring up the social needs of whole country on one platform and it also focused on enhancing the awareness level of individual about current scenarios and problems of the country.

Techkriti has been striving hard in making this "Virtually Progressing World" a better place with the help of various initiatives and in this strife it tries to reward, help and inspire the thousands of participants in its 55+ competitions. Techkriti this year has something really special in store for everyone. Do look out!