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INDIAN
INSTITUTE OF
TECHNOLOGY

IIT
BHU
connect

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Editor's Desk

The inaugural edition of the newsletter IIT BHU Connect was a comprehensive issue covering the vibrant elements that make up an Institute like ours. It was a perfect starting point for this biyearly publication. IIT BHU Connect is a medium for sharing the efforts and successes of the Institute community.

In this second edition, we have made efforts to cover, in greater depth, activities in the various domains of the Institute. Along with the regular sections, special emphasis has been laid on events and activities in the

Odd Semester of 2016-17. Articles are more interactive in nature this time. Many of them come with short interviews, and we hope this will provide the readers an insight into the vision and objectives of the initiatives under consideration.

Needless to say, a publication encompassing so many aspects of the Institute requires cooperation from many quarters. We are grateful for having received full support from the faculty, student and staff fraternities. We hope you will enjoy reading the Newsletter as much as

we did in preparing it. Feedback and suggestions are most welcome. The team can be reached at editor.newsletter@iitbhu.ac.in and studenteditor.newsletter@iitbhu.ac.in. The editorial team would like to thank the Deans and their Offices for their cooperation and valuable suggestions.

The team also thanks the **Film and Media Council of the Institute**. We are also grateful to the team of The Chronicle, the Newsletter of IBGAA.

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In Talks : Hon'ble Director

In Talks with the Hon'ble Director, Prof. Rajeev Sangal on some contemporary matters pertinent to the Institute.

The Induction Programme for the freshers was a huge success. It has been the subject of extensive media coverage and there is talk of replication of the programme in other IITs and Central Universities as well. What was the idea behind the initiative and how well would you say have we achieved the objective?

The success of a programme is judged by its internal parameters. The fact that external appreciation comes is just a confirmation or verification of our conclusion. Internally, I felt that when new students arrive at the institute, they immediately start going to classes and listening to lectures. We wanted to change this, and started thinking of ways to make the new entrants more comfortable first. The students enter a new atmosphere after years of hard work, and there should be some space for them to reflect on their own selves. Secondly, they should understand the culture of the institution, the working atmosphere, and what to expect out of their studies, as there is a drastic change when one moves from school to college. We also wanted to promote the spirit of bonding with each other, and with faculty and senior students. We were of the idea that this is an appropriate time for the vision of the students to be enlarged with aspects such as how things are in the larger section of the society, and also getting them to think beyond themselves; beyond "What I will do?" or "What will I get?", and to think about the society as we all are a part of it. It is necessary to develop a broader vision of the society, and as I said in the beginning, think about themselves and what they wish to do. Thus these two aspects of "What I want to do in my life?" and "What the society expects me to do?" ultimately connect. The convergence of these two elements is, what according to me, success is. We

accomplish our goals and through those, we evolve, become better and contribute to the society. It consists of both ourselves, as well as the society, with the family in between. To initiate this thought was an important goal of the induction programme.

I am very happy with the overall feedback. The students are pleased with the concern shown towards them. They enjoyed learning the art forms, be it singing, painting or dance. They felt the discussions held during the Human Values courses were useful as well as enjoyable. The entrants were also delighted to get the opportunity to go around the city. We organised lectures about Varanasi, which drew appreciation from the students. Some, however, were a bit apprehensive about the Physical education course, probably because many of them did not have the habit of playing and exercising. We will take suitable corrective measures in the future. But as a whole, the overall impression was good.

A lot of infrastructural developments like installation of solar panels across the Institute, and an extension of the library premises are under progress in the Institute. What is the progress in this regard and what are the plans for the near future?

It is true that we lack in infrastructure, and so we are continuously working on it. The library has been expanded. Extra space has been created for an administrative block and it is almost ready. There is a requirement for new hostels. The construction of a new girls hostel is about to start. If funds are allotted, a boys hostel would be constructed next year. In case of departments, various departments have undergone expansion recently and in some departments like Computer Science and Engineering, and

Mathematical Sciences, work is currently underway. But lack of space is still an issue for some of the departments, and the need for provisions is evident. There is an acute shortage of faculty and staff quarters. Due to some obstacles, the work has been stopped but we are hopeful that it will resume as soon as possible. Next in the line is, as you are all aware, the installation of solar panels which use renewable solar energy. It is worthwhile to note that the installation is done on the rooftops. So, it does not take up ground space and the installation can be done easily, ensuring safety of the equipments. Their capacity is 1.5 MW which probably makes it the largest installation amongst all the IITs. Based on the available roof area of our institute, we can add one more MW and thereby augment the capacity to 2.5 MW.



There are many student-driven social initiatives being taken in the institute, both within and beyond the ambit of the Gymkhana - like blood donation drives, cloth collection drives for the poor. A new Social Service council is also being established under the Gymkhana. What are your thoughts on such voluntary student initiatives?

It is excellent. As I have been mentioning, development of ourselves, our qualities, and connecting them with the society for the greater good is what gives us a holistic happiness. If I develop my qualities and use them for myself by being primarily engaged with myself and my family and not contributing to the

society, then such a life is incomplete. Many people, later in life, say that they do not find purpose in life. When we connect with the society and environment, our picture becomes complete. That is what makes our living more worthwhile, happy and holistic. The council of social service is one way to emphasise the social component, where we do voluntary service for the society. That engagement is necessary as it teaches us many things. We learn and become more satisfied.



Moving to academics, the institute has recently witnessed major changes in the curriculum, especially for the undergraduates, with greater emphasis on courses related to humanities and creative practices. What was the objective behind this structural change?

If we ask ourselves what we expect from a graduate student of an IIT, our first answer would definitely be that they should be good at their subject, whether it is engineering, science or technology. But that alone is not sufficient. We must have a larger vision of life. We need to understand about where we live, our society, politics, economy and social relations for two reasons. One is, as an engineer, when we do something in society, we need to understand how things are. Whether we are an entrepreneur involved in designing a new product, or an employee of a company involved in constructing a bridge or bringing out a new product, we need to work keeping in mind the society. The second reason is that, in the larger perspective, we ourselves are human beings. Besides being engineers, we are people. We want people to be successful both professionally and in their lives, because profession is but a part of life; it is not everything. So

besides being a good engineer, a good scientist or a good researcher, we also should be a good son, a good spouse, a good parent and ultimately a good human being with regards to the society.

This larger vision requires that we have humanities and social sciences in our curriculum. Unfortunately, humanities is seen as something which is very soft, something to be learnt and forgotten. But any knowledge, until it is of some use, is not valuable. If people interpret humanities in such a fashion, then the question to ask while they are learning is, "How is this applicable to me?", "How is it applicable to the society?", "How does it affect my role?", "If I understand things which are outside, how do I play my role?". Humanities becomes a success when we view it this way and take something out of it. Let us consider an analogy. Suppose there is a period of heavy rainfall. If we are not prepared, all the water would drain into the sea. On the other hand, if we are well prepared, the water would fill all the ponds and lakes and there would be no floods and droughts. Similarly when we get to experience something new like humanities, either it can flow away like water, resulting in us only passing the exam, or, if we are well equipped to gauge its usefulness, it can get absorbed inside us just like rain water, and serve us our entire lives.

Are there any special incentives being given for the development in the field of academics in the institute like research so that more students enrol in programs at various higher levels like post-graduation?

Yes, that has been a prioritised area. We have been setting funds aside for modernisation of all the departments. We have been providing substantial funds of about Rs. 20-25 crores every year just for basic equipment modernisation, not counting anything else. The Central Instrument Facility is one such example where we have spent nearly 30 crores rupees. Then, invitations for the proposals of research from within

the institute has been done. If better performance is put up, external funds can be obtained. On the innovation front, Project Varanasi has been started and the Design and Innovation Hub has been set up, through which a large part of the student fraternity gets benefited. Further, this builds an environment of excellence. By doing whatever we do, well and trying to improve what we have done before, we attain excellence.

We had talked about the NIRF rankings by the MHRD when we met last time. Can you tell us about the significant steps taken in the meantime to improve our performance in that regard?

One of the shortcomings we noticed in the NIRF data we provided last time, was that it was incomplete. So, we have put extra effort in that direction. This time, we have done a more complete job of coordination between the departments to get information. The other part is the overall process of improvement such as greater innovation, better teaching and higher research output. We do not work for improving a single aspect, but the rankings do help us identify the lacunae in the system, thereby enabling us to correct them.

There have been reports of acute faculty shortage in the institute. Many newspapers have reported faculty deficit in all the IITs and especially in IIT BHU, which is reported to be a staggering 53%. What are the challenges in this aspect and what are the various actions being taken to overcome this deficit?

Faculty recruitment is one of our major challenges. In fact, getting the best quality faculty to apply in our departments is one of the most important tasks ahead of us. In some departments, we get applications of exceptional quality whereas in some others, it is not quite the same. The dilemma then arises whether or not to fill a position when we can get a better faculty member on board, i.e. whether to accept some applicant who is only marginally fulfilling the required profile. Also, it requires a concerted effort to project

ourselves globally by putting forward our achievements and progress. It also involves contacting potential faculty members by vigorous efforts through mail etc. This groundwork needs to be done and unfortunately, we have not worked to our potential in this area. Sometimes we have to track people over a period of more than one or two years, and look out for candidates completing their PhDs and Postdoctorates, and go through their research papers. Then we need to contact them and persuade them to apply for the position of faculty in our institute. In this regard, I must accept that we are lagging behind, and it needs to be solved.

Reportedly, some institutes send representatives to places to scout for faculty members. Is there any such initiative from our institute?

It is an effective but slow process. Two and half years ago I had gone for a conference abroad and I took another 8-10 days during which I went to almost 10-12 places and gave talks at many of those places and the word sort of spread around. But this needs to be done meticulously on a regular basis to get things flying. This is because when we give talks anywhere; the people who are completing their PhDs or Postdocs take one or two years to apply. We did receive such applications, but the process also takes time and the work is still going on.

Are we taking any such actions now to attract applicants?

Each department has a departmental faculty committee. Their primary function is to recruit faculty at various levels. Every time we had met, I had been sensitising them to adopt modern means of searching on the net and going to various places and looking for potential faculty members. Some of them are doing well, but many have not seriously started acting on this issue.

Initially after conversion into an IIT, there were certain complications in administrative activities such as security, allocation of funds, infrastructure and so on with BHU because of our dependence

on them. So, how is the situation at present with regards to relations with the university?

We were not dependent on them financially. The moment we got separated, the allocation of funds had been clearly separated. We were dependent on them for many of our normal procedures, like maintenance of grades of both the institutes by BHU. We had shifted to a new system of grading and many new ordinances were put into force and that made it difficult for BHU to follow two different patterns. That was one of the first things which we shifted. Of course, once the finance had got separated, BHU was still been providing assistance in certain areas but all those departments have now been shifted to the IIT. Excluding a couple of things like old pensions, the official responsibilities have completely been shifted.

The key areas where we continued to co-exist and depend on each other were services such as cleaning, maintenance of hostels and staff quarters. We paid for those, but they provided us with the services. We have taken up some of the services, such as maintenance of hostels, into our hands. In the case of horticulture, cleaning of roads, sewage system, water supply and electricity, the entire campus is being treated as a whole and they are providing us with the services. With regards to security, there is a single proctorial board for the entire campus with the IIT having its boundaries clearly demarcated. Sometimes when new issues arise, they are handled amicably.

A major problem being faced especially by the student fraternity is the institute internet facility. What are the setbacks in this aspect and the measures being taken to generate an effective solution?

We had a committee which designed a very modern network system for the institute. Thereafter, we had to follow a two-step procedure for its implementation, the first step being the expression of interest during which five companies came forward and visited the campus and expressed their willingness to put forth the bid, which is the next step.

However, ultimately, only two companies submitted their bids. This took place in early November, and we got stuck. If the process had materialised, our new intranet facility would have been in place by now. It takes two months to complete the work. But as only two companies came forward, we had to cancel the tender and reissue it. The five companies had visited the campus more than once and made their presentations and got their queries explained. So the outcome was very unexpected and unfortunate. Earlier we had put some checks and conditions on the experience and capabilities on prospective vendors, which we are now trying to relax, in order to attract more bids. Therefore, it is going to take some more time and I myself feel frustrated with this fall through, especially as a lot of effort had been invested in this area. Moreover, the students and the individual departments are the worst victims of this poor facility. Although we did not have sufficient funds, we had pressurised the MHRD and obtained it, but to our dismay, the bottleneck became the number of tenders. The vendors themselves do not manufacture the products but buy them from the market. So, I do not know if there were any rivalry or politics at that level, but otherwise, there has been no issue of prompt payment or prompt construction on our side. No such concern was raised by them.

INDUCTION PROGRAM : A Novel Experiment

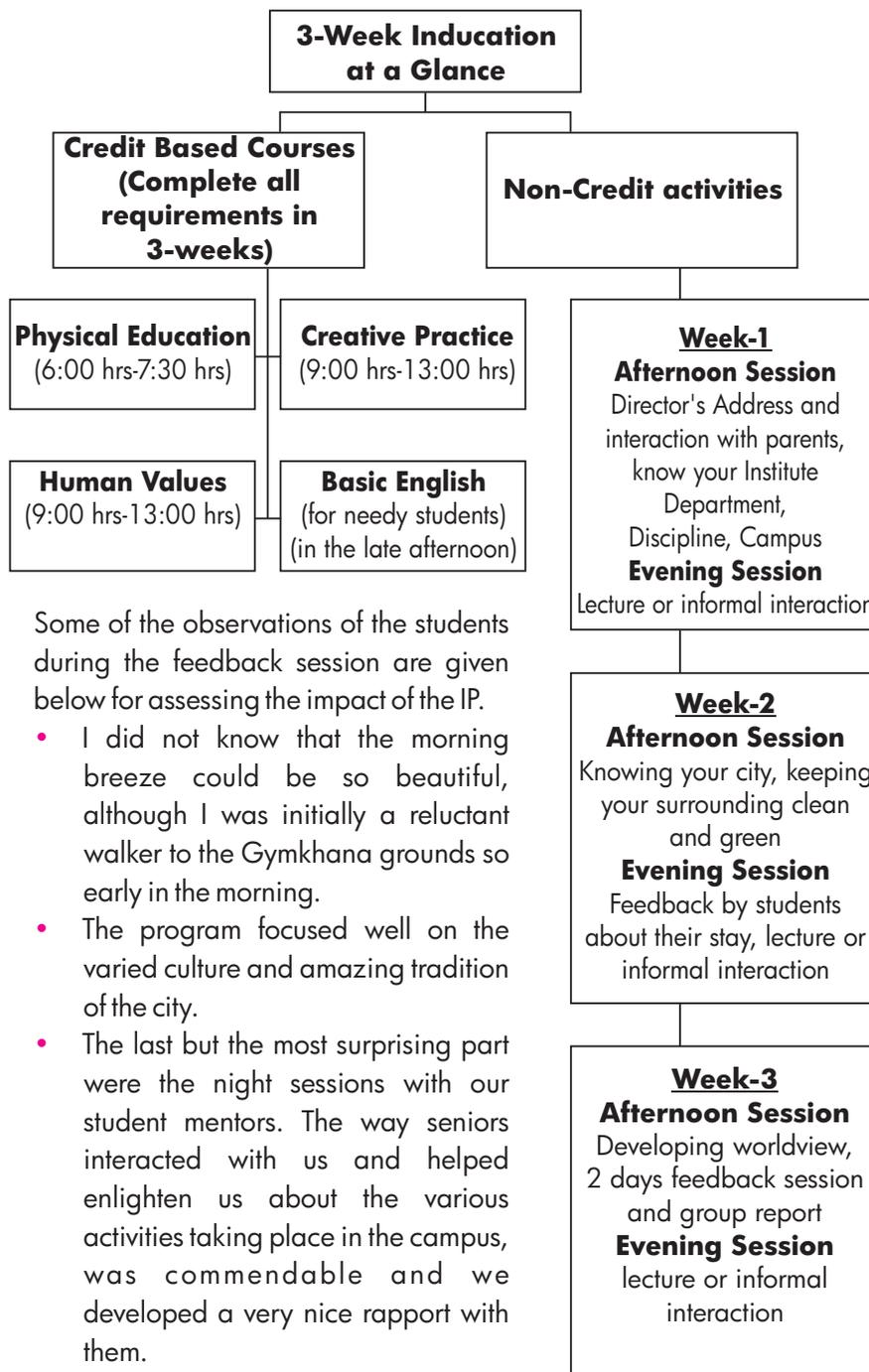
A three-week Induction Program (IP) was conducted by IIT (BHU) Varanasi for the newly admitted undergraduate students from July 27-August 20, 2016. Such a program was being implemented for an intake of around 1000 students for the first time in the country. The students, burdened and stressed out after a hectic high school life, were exposed to month-long credit courses like Physical Education, Human Values and Creative Practices, as well as several non-credit informal activities every afternoon, in an attempt to bring them to terms with real-life skills and humanistic understanding. The program proved to be an eye-opener for many, with the feedback bringing out many aspects that are worthy of consideration for the growth of IITs in particular, and any academic institution of higher learning in general.



Campus Cleaning during Induction program



Assembly before Physical Education classes



A survey by the Media Club of the Institute found some really positive reviews by the freshers. 82% of the respondents believed they had a lot of fun in the process, while a staggering 95% said the programme helped them gel better with their batchmates. Three-fifths of first yearites found the Creative Practices and Humanity courses in resonance with their interests, and a good 70% saw the distinguished lectures as enlightening. More than three-fourth of responses reported that the new junta feels more concerned about the environment now, and that's a big thumbs up to the Green Club and the Institute. "I really like this institute after having spent a few days here. I liked my Human Value classes as I got to ponder on the things I learnt and had the experience of working and discussing in a group. I felt better after sharing my thoughts. Secondly, before coming to IIT BHU, I had never thought that I would enjoy going to an IIT. I had thought that there would be nothing to do but study. But when I go to a Creative Practice class, I feel happier," a review read.

हिन्दी पखवाड़ा

संस्थान द्वारा 01 से 15 सितंबर, 2016 के दौरान हिन्दी पखवाड़ा का आयोजन किया गया कार्यक्रम का उद्घाटन माननीय निदेशक महोदय द्वारा किया गया था। इस अवसर पर संस्थान में राजभाषा नीतियों के अनुपालन हेतु निदेशक महोदय की अपील जारी की गई। कार्यक्रम के प्रथम सत्र का शुभारंभ संस्थान के एनी बेसेंट व्याख्यान कक्ष संकुल में हिन्दी कार्यशाला के आयोजन के साथ हुआ। श्री जगदीश नारायण राय, संयोजक, केन्द्रीय सचिवालय, हिन्दी परिषद, वाराणसी द्वारा हिन्दी कार्यशाला में निम्न प्रशिक्षण दिये गए -

क. हिन्दी कार्यशाला का परिचय तथा राष्ट्र की राजभाषा नीति

ख. राजभाषा नीतियों का कार्यान्वयन तथा पत्राचार एवं टिप्पण लेखन

इस कार्यशाला में संस्थान के कुल 65 अधिकारी/कर्मचारीगण ने प्रशिक्षण प्राप्त किया। कार्यक्रम के द्वितीय सत्र में कंप्यूटर पर हिन्दी में काम-काज को बढ़ावा देने के लिए कर्मचारियों को यूनिकोड के माध्यम से हिन्दी टंकण का प्रशिक्षण श्री डी. वेणुगोपाल, सहायक कुलसचिव, कृषि



विज्ञान संस्थान, काशी हिन्दू विश्वविद्यालय द्वारा दिया गया। इस अवसर पर संस्थान के कुल 46 अधिकारी/कर्मचारीगण ने प्रशिक्षण प्राप्त किया।

14 सितंबर को संस्थान में हिन्दी दिवस समारोह का आयोजन किया गया। कार्यक्रम का आयोजन पं० मदन मोहन मालवीय की प्रतिमा पर माल्यार्पण एवं दीप प्रज्वलन के साथ हुआ। श्री जगदीश नारायण राय ने कार्यक्रम में राजभाषा के इतिहास तथा 14 सितंबर को हिन्दी दिवस मनाये जाने के कारण पर प्रकाश डाला।

तत्पश्चात् हिन्दी पखवाड़ा समिति के अध्यक्ष आचार्य सुशांत कुमार श्रीवास्तव ने माननीय गृह मंत्री का हिन्दी दिवस के अवसर पर जारी संदेश का पठन किया।

निदेशक महोदय ने दिनांक 01-09-2016 से



दिनांक 13-09-2016 के मध्य आयोजित प्रतियोगिताओं में प्रथम, द्वितीय एवं तृतीय विजेता कर्मचारियों को पुरस्कृत किया।

हिन्दी दिवस के अवसर पर रामनगर की विश्वप्रसिद्ध रामलीला पर हिन्दी पुस्तक का विमोचन माननीय निदेशक महोदय द्वारा किया गया। तत्पश्चात् निदेशक महोदय ने अपना अध्यक्षीय संबोधन प्रस्तुत किया, जिसमें उन्होंने हिन्दी दिवस को हिन्दी का ही नहीं बल्कि भाषा का दिवस बताया और कहा कि हमें देश की सभी प्रादेशिक भाषाओं और बोलियों का सम्मान करना चाहिए। कार्यक्रम का समापन संस्थान के संयुक्त कुलसचिव (प्रशासन) श्री राजन श्रीवास्तव के धन्यवाद ज्ञापन से हुआ।

CONVOCATION 2016

The 5th Convocation of the Institute was held on Monday 17th October, 2016 at Swatantrata Bhawan, BHU to confer the degrees on the students who passed out in the year 2016.

There were 730 B. Tech., 216 IDD/IMD, 265 M. Tech. and 64 PhD degree recipients this year. For the graduates, the prize distribution was conducted by the Hon'ble Director, Prof. Rajeev Sangal and Dean of Academic Affairs, Prof. G. V. S. Sastry, who distributed the degrees as well as blessed the outgoing batch with tremendous success for years to come.

The distinguished guests at the convocation were Dr. Abhay Bang, Indian social activist, a researcher working in the field of community health in Gadchiroli district of Maharashtra, India; and Prof. Ashok Jhunjhunwala, Professor at IIT Madras.

There were 42 Gold Medalists, who were awarded the IIT (BHU) Varanasi Medal by



the respected Chief Guests for commendable academic excellence and standing first in their concerned departments. Apart from awards from the institution, there were 36 special prizes, named after alumni and professors, which were awarded to the students.



Central Instrument Facility (CIF)

In Talks : Prof. Rajiv Prakash, Professor In-Charge, CIF

Central Instrument Facility (CIF) is one of the newly formed Specialized Core Facilities at the Institute. "Our mission is to provide futuristic research infrastructure and quality education services in support of advanced instrumentation." The CIF offers an array of sophisticated instruments and technical expertise to support faculty/student research and industrial R&D. The Facility is headed by Prof. Rajiv Prakash, assisted by full-time professional staff / scientists, each with their own specific expertise. PG student assistants are also available for smooth operation of the instruments. The facility is currently being used extensively by UG and PG students for research activities.

Future plans regarding expansion of the facilities at the CIF

A lot of modern-age instruments are available here at present. In the near future, we are trying to introduce instruments for some specific

applications like 3-D printing. Nowadays, 3-D printing is getting a lot of attraction, and it will be useful for students of Electronics, Electrical, Mechanical, Physics, Material Science, Metallurgy, etc. Secondly, we will introduce a Nanoindenter which will be useful for studying mechanical properties of nanomaterials. It will be coupled with one of the SEMs (Scanning Electron Microscope). Thirdly, we are planning to acquire a unique characterization facility that was discovered in India, Raman Spectroscopy. Unfortunately, we don't have this facility right now, but we will make it available soon. So, these are three main features that we are trying to bring in here.

Highlight of the facility

MPMS (Magnetics Property Measurement System) is a unique service at CIFIC and is not available anywhere else on the campus.

On industry collaboration

Except one or two instruments, all others have been acquired with company collaboration, that is, the company involved deputed the person who operates the device. Also, the companies take a lot of interest through the deputed person. Time to time, companies come here and organise seminars and conferences. They give lectures and provide student training workshop so that students get more familiar with the operation and functions of the instruments. In addition to this, they provide us information about additional devices, which when used in association with the existing instruments, will enhance the capability and productivity of the facility. For instance, recently, they came here with the Raman Spectroscopy device to give its demo and also analysed of around 50 samples of our students on it.

CIF Instrument

Magnetic Property Measurement System (MPMS3)-SQUIDVSM



MPMS3 is a brilliant instrument to measure magnetic properties of materials with high accuracy. It employs a SQUID (Super Conducting Quantum Interface Device) detector based technology which can measure very small magnetic fields, just as is observed in a human heart and brain (~10-14 Tesla). It possesses a

superconducting electromagnet of very small size but capable of producing high magnetic field at low power supply. It creates a 7T high magnetic field and can measure both types of magnetization (AC/DC). There are two scan modes - VSM (Vibrating Sample Magnetometer) and DC (Single motion control). It measures magnetic properties at very low temperature of 2 K as well as high temperatures of 1000K.

Model & Company

MPMS3 Quantum Design

Scanning Electron Microscopy (SEM/HRSEM)

A Scanning Electron Microscopy (SEM) is a microscope that uses

electrons rather than light. It serves as a powerful tool for the investigation of surface structures of materials. Scanning electron microscopy is used for inspecting topographies of specimens at very high magnifications.



Model & Company

Zeiss EVO 18

FEI-Nova Nano SEM

High Resolution Transmission Electron Microscopy (HRTEM)

HRTEM gives us information about the crystal structure and surface morphology of materials. HRTEM, we can analyse or view the interplanar spacing of crystal lattice. It gives images of lattice point in structure of materials. HRTEM has a range of 5 nm particle size.

Model & Company

HRTEM –FEI, Tecnai

Atomic Force Microscopy (AFM)

AFM is a scanning probe microscope used to obtain images of material surfaces. Through this instrument, surface images are obtained through atomic force between an atom or a cluster of atoms of material, and an atom of the scanning tip (at the tip, one or two atoms are present).

Model & Company

NT-MDT-NTEGRA PRIMA

Particle Image Velocimetry (PIV)

It is used to measure the velocity of fluid flow with particle image velocimetry (PIV). Particle Image Velocimetry lets us make non-intrusive full-field fluid flow velocity measurements. Because of this, Vector Analysis is a very powerful technique for performing flow velocity measurements in air or water or for measuring spray droplet / particle velocity.



PCB Prototype

Printed Circuit Board (PCB) machines are used for designing many circuits on a PCB board as per our requirement. For both single and double-sided PCB, we can conduct both layers, top and bottom, by LPKF Proconduct method. PCB is widely used in electronic devices.

Model & company

LPKF ProtoMat S 103



X-Ray Diffractometer (BenchTop /HR-XRD)



X-Ray Diffraction is a tool used to study the crystal structure of a material or confirm a single phase of a sample. It means XRD is the “finger print” of the material because it identifies which family of crystal structure, the structure of compound belongs to. When X-rays are scattered from a crystalline solid,

they can constructively interfere, producing a diffracted beam.

Model & Company

BenchTop-Dtex (Ultra) and HR-XRD-Smartlab-Rigaku

Nuclear Magnetic Resonance (NMR)

Nuclear Magnetic Resonance spectroscopy is used to study the structure of molecules, the interaction of various molecules, the kinetics or dynamics of molecules and the composition of mixtures of biological or synthetic solutions or composites. The advantage of NMR is its unique ability to allow both non-destructive and quantitative study of molecules in solution and in solid state.

Model & Company

NMR 500 MHz- Bruker



CNC Lathe and Mill

CNC Lathe is designed to perform turning, threading, grooving, step turning etc with very good precision. CNC Mill is designed to perform facing, circular and rectangular pocket and studs, deep hole, slot and drilling etc. with high accuracy.

Model & Company

CNC Lathe 260 Turn (EMCO) and CNC Milling 260 Mill (EMCO)

| Date | Topic | Company |
|--------------------------------|--|---|
| 7 th December, 2016 | Pulse laser Deposition Techniques | |
| | XRF Techniques | Bruker, India |
| 27 - 28 Sept, 2016 | BIRAC-IIT (BHU) workshop on bio-entrepreneurship, grant-writing & intellectual property management | BIRAC - Wellcome Trust and Bill & Melinda Gates Foundation, India |
| 19 th Sept, 2015 | General measurement techniques, operations and precautions related with Evercool MPMS-3" | Quantum Design - India |
| 17 th July, 2015 | "Advances in Separation and Detection Technologies" | Agilent Technologies India Pvt. Ltd |
| 18 th June, 2016 | Tabletop SEM | Jeol India |
| 8 th April, 2015 | Workshop on Electrochemistry applications | Metrohm India Limited |

Office of the Dean, Resources and Alumni

Prof. A. K. Tripathi, Dean, Resources and Alumni, talks about the role of Alumni in the Institute.

Scope of the Office

The Office of Dean of Resources and Alumni exists primarily as a channel to facilitate communication with the alumni, and we work closely with the different administrative departments in the Institute for implementation of the same. For example, the alumni scholarships are handled by the Office of Dean of Academic Affairs. The proposed Research Park, for which alumni help has been pledged, is being coordinated by the Office of Dean of Research and Development (DoRD). Additionally, some work is indirectly managed by us. For example, when the Malviya Chair for Railway Technology was set up, the corpus of Rs. 5 crore was given and is present with our office, but is administered by the Office of DoRD. In matters of Student Affairs, we have requested the Dean of Student Affairs to come up with list of stalwarts in different cultural fields that our Institute has produced, so that they can be involved in various activities of our Institute.

Structure of our Alumni associations

Alumni activities till 2012 were conducted by the University. The Institute as such did not have any separate cell. But our passouts had been maintaining cells. There is one in the USA, the IIT BHU Global Alumni Association (IBGAA), which is open for membership across the globe. There is one at Delhi, the IIT BHU Alumni Association (IBAA). Other specific regions also have their own representative associations. To organise them, we are asking the IBGAA to assume a truly global role, whereby other country-specific alumni associations, like the one in the UK,

can become chapters under it. Similarly we are asking the IBAA to redesignate itself as a national alumni association, with the idea of including regional associations like Western India and the Pune association as chapters under the IBAA. We even have an alumni association in Varanasi, which covers the city and some of its surroundings. To enable better coordination between the cells, the executive committee of each Alumni Association will have a few representatives in every other association.

Current status of alumni involvement in the activities of the Institute

Alumni involvement in the several aspects of governance of the institute, within the framework of the governing principles and rules, is a long term objective that we have. In the medium term, we require the involvement of the Alumni in celebrating Centenary of Engineering Education in India, from the centenary of BHU (2015-16) upto the centenary of IIT (2019-20). The IBGAA celebrated the BHU Centenary Meet in California in Sept. Five centenary projects have been floated, for which Alumni involvement is being sought – a world class modern library by the name of Shatabdi Granthagar, which will house an ICT centre as well, and whose preliminary artistic view is already in place. A cultural complex around the SB by the name of Shatabdi Sanskritik Sankul, to house the different cultural genres, is also coming up and the Gymkhana is involved in its development. A Shatabdi Gosthi Sankul, a seminar hall centre, will come up around the Guest House. A Shatabdi Kosh, or Centenary Fund, will serve to raise a

corpus fund of \$1 billion by 2019 from our alumni for our Institute, with an administrative team to decide its expenditure. There is a proposal from the DST to open up a Research Technology Park in our Institute with an investment of around Rs. 150 crore, of which around Rs. 7 crore is to be generated by the Institute. In our last Alumni Meet, Mr. Vish Narayan, President of IBGAA, announced the Association's pledge to raise \$1 million for the purpose. The idea is to involve them not just financially, but in its working as well. A modern step taken by Institutes, including IITs, involves opening up of branches abroad. Setting up our liaison offices in business centres and major cities abroad will enable us to collaborate in R&D, provide opportunities to our students for projects and credit-transfer programmes. The alumni associations can help immensely in this matter. Expertise of alumni is also being sought in our projects related to academia and society. Sandeep Sen and other alumni members recently organised workshops to mentor students in DIH, and there are plans of their involvement in stages of project guidance and evaluation process. Overall, there is an immense need of galvanising of alumni activities. Hopefully, future Deans of this office will continue to work more on how to include them in academic and administrative processes.

Objectives and vision behind setting up the Student Alumni Interaction Cell (SAIC):

The students are the most important stakeholders in our Institute, and it is very fitting that they are now taking part in administration through the

Students' Parliament. Similarly, with regards to our alumni activities, we arrived at an understanding that there should be a front office at the Institute level, to understand what students expect from the alumni, and to facilitate contact with them. The idea is that, the Students' Parliament will discuss the nature of alumni relationships, work out the expectations of the student community, and through the cell, will be indirectly interacting with the alumni. The SAIC consists of a 7-member core committee, along with a 40-member extended committee across different departments and years, and their objective is to find initiatives of interest to students, including internships, scholarships, interaction with the alumni to bring companies on board for placements etc. Informally, these continue happening. But with the

intention to formalize these activities, the SAIC was formed. The cell works closely with the Office of DoRA, and the DoRA himself is involved as Chairman of the Cell. The members have been providing extensive help to visiting alumni on campus. To further their role in alumni activities, they have been taking part in IBAA meetings. The organisational work of the Alumni Meet to be held in February will majorly be taken up by SAIC, along with some faculty members. So this is the body that will be working out requests of students, talking to alumni, performing the liaison work, and will possibly exercise control over alumni work in the Institute.

On the Alumni Meet to be held in the Institute in February 2017

This Alumni Meet is an important one in the sense that this is a pre-centenary Alumni Meet. This will give us an

opportunity to develop the Institute roadmap for the next 100 years. The Hon'ble Director has come up with some ideas for the long term, as to how to develop ourselves into a pioneer in various aspects. The issue of alumni involvement and contributions in this regard will be discussed extensively at the Meet, so that when they go back, they can deliberate on the issue and when we meet on the occasion of the Centenary, we can discuss it in depth. For this edition, we have made provisions to encourage alumni to come with their immediate family members, so that they can enjoy and appreciate their alma mater with their loved ones. Furthermore, we will try to have Centenary Meets in different important places where we have a significant alumni presence, both within and beyond our country.

Student Alumni Interaction Cell (From the Core Team)

SAIC acts as a collaborative and symbiotic linkage between IIT (BHU) Varanasi and its Alumni. The organization functions with a vision to develop a dynamic student-alumni community committed to establishing connections and strengthening ties between students and alumni, facilitating IIT (BHU) Varanasi's mission of providing top quality education and opportunities for investing in its future.

The Alumni of prestigious institutions like other IITs have always played a key role in many avenues for the benefit of their alma-mater. Our institute also boasts of a very strong alumni network but it was functional only outside. The connecting thread was missing which kept us from realizing the complete

benefits of having such a network. The newly established cell aims to act as a connecting link between the two and create a bridge between the student fraternity and the alumni. An effort of such a kind was one of the most sought after demand of both alumni and the students and this cell is expected to pave a new path for both parties to tread the road of mutual benefits. In this regard, a Student Mentorship Program has been initiated for existing students to get guidance and counselling from eminent alumni who have excelled in their particular fields. Besides, the cell would also facilitate Infrastructure development, Hostel development and Scholarship Programmes through funds garnered from the Alumni. Another visionary

scheme is the endowment scheme for Research Projects, both at the Institute level and for foreign internships.

It has almost been a year since the cell started functioning in a full-fledged manner. We have got positive responses from both the alumni and student fraternity. Our Facebook page is functioning well with wide reach of our posts. Many alumni have registered for the Mentorship Programme, and the number is growing. We have a bimonthly newsletter 'Smaran' The Alumni Meet is going to take place from 27th February to 1st March this year. So, things are expanding, and many new schemes are on their way.

BHU Centenary Global Meet : Silicon Valley September 2016

Exactly a century ago, in Feb 1916, Banaras Hindu University (BHU) was established and 2016 marks 100 years of BHU's contribution to education in India. Celebrating this centenary event, the IIT-BHU Global Alumni Association (IBGAA) hosted a Global Meet at the Santa Clara Convention Center, CA on Saturday, 17th of September 2016. The theme for the Meet was CIRF - "Celebrate, Inform, Recognize accomplishments and have Fun".

Alumni, family and distinguished guests from across the globe converged on the venue and the event was a grand success, with a record turnout of 350+ attendees. With alumni from as far back as the class of 1945 and all the way to the class of 2015 – it was a fitting celebration of the heritage of BHU and the 100 years of BHU's contribution to the progress of India and the world.

A packed agenda included, among other things, an entrepreneurship panel, career development workshop, discussion on progress made by IIT (BHU) and felicitation of distinguished alumni. Successful alumni from the San Francisco Bay Area as well as from across the globe joined hands to share their experiences with their fellow alumni. Addressing the gathering, Vice Chancellor of BHU Prof. G. C. Tripathi, urged the alumni to come forward with ideas on how BHU and IIT BHU can continue to make big strides while preserving the rich heritage of the institution.

The Meet included keynote address by noted alumni and panel discussions on relevant topics. Hon. Manoj Sinha, Minister of State, Independent Charge for Communication, and Minister of State, Railways, Government of India,



(Civil Engineering 1979, M. Tech. 1982) was the Chief Guest of the occasion. Invited special guests included Prof. G. C. Tripathi, Vice-Chancellor BHU; Prof. A. K. Tripathi, Dean of Resource and Alumni, IIT (BHU); Prof. Satish Tripathi, President, SUNY Buffalo; Prof. Virinder Moudgil, President, Lawrence Technological University; Prof Leah Ronald – Historian, South Asia, University of Texas at Austin; Mr. Venkatesan Ashok, Consul General, SFO; and Mr. R. K. Verma, Secretary, Railways, Government of India.

With inspiring musical performances by alumni and their family members, and attendees dancing late into the night, a spirit of festivity and nostalgia prevailed throughout. Alumni admitted they could not wait for the next global meet planned for 2018.

The following alumni were presented with 2016 Distinguished Alumnus Awards as part of the Centennial Meet. The awards were presented by Prof. A.K. Tripathi, Dean of Resource and Alumni on behalf of Director of our Institute, Prof. Rajeev Sangal.

| Name | Award Category |
|---------------------------------------|------------------|
| Dr. Anil Chakravarthy (CSE 1989) | Corporate |
| Prof. Devesh Kapur (Chemical 1983) | Education |
| Mr. Sanjay Sethi (Mechanical 1993) | Entrepreneurship |
| Mr. Darshan Goswami (Electrical 1967) | Government |
| Dr. Sarvajna Dwivedi (B Pharm 1984) | R&D |
| Dr. Salil Prabhakar (CSE 1996) | Social Service |



Lamp Lighting Ceremony

(Dr. G. C. Tripathi VC BHU, Dr. Virender Moudgil - President, Lawrence Technological University, Hon. Manoj Sinha, Minister of State Independent Charge for Communication, and Minister of State Railways, Government of India; Dr. Satish Tripathi - President, SUNY Buffalo, Dr. A.K. Tripathi, Dean IITBHU, Mr. Venkatesan Ashok, Consul General SFO)

In Talks : Deputy Librarian

Dr. Navin Upadhyay : Deputy Librarian, IIT (BHU) Varanasi, talks about the facilities and initiatives, and on the expansion work that is currently underway.

Briefly tell us about the existing collection and facilities available at the Main Library.

The library has a rich collection of books on engineering, science and technology. It also has an excellent collection of bound volumes comprising old (since 1918) and new periodicals, codes and standards. Since the conversion of the institute to an IIT, we have also been trying to enrich the collection of humanities titles in the library. Currently, the library has more than 1,30,000 books and bound volumes of journals.

| | |
|-----------------------------|----------|
| E-journals | : 15,000 |
| E-standards | : 60,000 |
| E-books | : 50,000 |
| Books (reference, general) | : 88,730 |
| Text Book Bank | : 18,806 |
| SC/ST Book Bank | : 8,740 |
| Bound volume of periodicals | : 17,738 |
| Thesis | : 269 |
| Compact discs | : 654 |

Additionally, some of the basic facilities that are being provided include internet access facility, digital library access, photocopying service, computer print-out facility, reference service, Document Delivery Service and plagiarism check facility. Under the User Awareness program, the library has recently organized an Author workshop and training program on Grammarly and Turnitin software.

How has been the overall progress of the Library over the years since our transition to an IIT?

The construction of the first floor of the library building is now almost complete and is expected to be open for students by March 2017. A sitting area, which can accommodate more than 400 people, has been created for reading purposes and will remain open 24x7. This will be well equipped with personal reading materials and furnished with a Seminar Hall cum User Awareness Program Hall for arranging Author workshops and training programs. The major problem of lack of adequate reading space is expected to be solved once the first floor is completed. Besides, an Amul Stall is going to come up very soon in the library premises.



What are the steps being taken towards modernization and digitization?

Due to some recurring issues like network connectivity and security concerns that we have been facing, some basic facilities which are essentially required for teaching and research could not be provided to library users as planned earlier. This is now being considered by the library as a matter of top priority. A new library management software has been installed which has been serving us well. As soon as a proposed public IP is allocated to the library server's web OPAC, mobile access, SMS alert and



e-mail alert services will be provided to library users. The much-awaited Institutional Digital Repository (IDR) is now functional. Various important documents like Ph.D. theses, M.Tech dissertations, faculty and students' research articles, Institute Lecture series, convocation video, etc. are being uploaded on the Repository for open access to all. The software - Grammarly and Turnitin have now been made available for all users, which will improve the research quality and publication of articles of the Institute. Very soon a discovery service, a single platform from where all the resources of the library will be accessible along with provisions for remote access, will be provided to library users.

As far as the digitization of the old valuable collections is concerned, the library is continuing to work towards identifying the collections which do not fall under copyright category and can be digitized. A separate proposal, 'Digitization of old collections' is being made for which the library is applying for a separate grant to the MHRD. We have also planned to

implement the RFID and smart card technology for library transactions and other library services soon. We are in the process of replacing the old desktop computers with new ones and planning to shift the computer lab to the first floor with all new systems.

What has been the contribution of the Alumni in this regard?

Our alumni have always come forward to support the library since the very beginning. Soon after I began my career in this library in 2005, the US alumni association members donated several Wi-Fi enabled desktop computers to the library, which earned us the distinction of being the first library to start Wi-Fi facility in the university. In 2007, the 1976 batch donated a collection of 600 titles of reference books, text books and general books for starting a text book reading section. Currently, the alumni have taken up a grand project for the development of a state-of-the-art sustainable green building - "Shatabdi Granthagar", costing approx 150 crore INR. Recently, an announcement of raise in alumni funds has been made, details of which are available in the Alumni Newsletter.

Going forward, what is the vision for the library in the short and long terms?

The library is working remarkably towards providing comprehensive and high-quality library resources and services which will cater to the academic needs of faculty and students. The primary goal is to fulfill the Institute's mission of achieving excellence in education and participating in the advancement of knowledge through research and technological advancement. The ultimate vision of the library is to become a strategic asset for the Institute and to be able to provide outstanding collections and services for better learning and research.

Malaviya Chair for Railway Technology

(Prof. R.K. Mandal, Coordinator)

This chair has been established by the Ministry of Railways, Government of India on June 08, 2015 to have collaboration with our Institute in the area of Materials Science and Engineering. Some of the areas where our expertise has been sought pertain to Physical Metallurgy, Mechanical metallurgy; development of new alloys and new generation of materials for future needs. The activities of the Chair are reviewed from time to time by a Chair Core Committee headed by Secretary, Railway Board. RDSO, Lucknow is the active collaborator from the Railways. The Chair is also expected to support the visit of experts and extend help in the organization of conference/workshop/seminar relevant to materials research. Some of the recent activities undertaken by the chair are mentioned below:

- (1) Two research projects are nearing their successful completion. They refer to (a) Development of Light Weight FRP runner for blower fan assembly of Roof Mounted Package Unit (RMPU) fitted in AC coaches and (b) Development of long life Nylon bushes for Alternator with suitable material composition to avoid failure of bushes.
- (2) A Brain Storming Session on "Design

and Development of Light Weight Passenger Coaches Supported with Smart System" was held on September 06, 2016. This had been organized to promote Institute-Industry interaction in presence of representatives from RDSO, Lucknow. A concept note based on the discussions has been prepared and circulated for necessary action for taking up this project by various industrial houses and academic institutions.

This Chair is expected to provide stimulus for the creation of a research center to meet the entire corpus of engineering needs of the Railways.

Quality Improvement Programme

(Prof. B. K. Shrivastava, Coordinator)

The objective of the QIP is to upgrade the expertise and capabilities of faculty members of the AICTE approved degree-level engineering institutions, National Institutes of Technology (NITs) and National Institutes of Technical Teachers' Training and Research (NITTTRs) of the country. There are nine major centres under this program. Until last year, there were eight major QIP centres, viz. IIT Bombay, IIT Kanpur, IIT Delhi, IIT Madras, IIT Kharagpur, IIT Roorkee, IIT Guwahati and IISc Bangalore. In the current academic year, we were also brought under this umbrella as a major centre. Apart from these, there are several minor centres. The

major centres have been assigned the responsibility of training teachers to pursue their M.Tech and PhD degrees. We provide them with the opportunity to complete these courses in any of the renowned colleges in India, during which they receive salaries and scholarships. Another of our responsibilities is to organise short-term courses at the QIP Centres for serving teachers in various emerging areas of technology and research. Under this, courses are allowed to be organised for a period of 20 weeks in any of the above mentioned major centres. We have been allotted 20 courses through this initiative and we are conducting them on a full-fledged basis.

Accordingly, the Department of Mining Engineering, Department of Ceramic Engineering, School of Bio-Medical Engineering and Department of Mathematics and Computing have undertaken courses of one-week duration each. These courses are currently being organised and teachers are allowed to come from various places and allowances such as TA, DA are paid to them along with lodging facilities and some other minor expenditure. Therefore, they get to interact with the faculty at IITs and also get acquainted with the advanced courses and thereby enhance their skills and knowledge.

List of courses organised/planned by QIP

| Department | Course Coordinator | Course | Date |
|---|---|--|---------------------|
| Department of Electronics Engineering | Dr. M.K. Meshram | Design of Microwave Antennas and Passive Components | Dec 19-24, 2016 |
| School of Bio-Medical Engineering | Dr. Sanjeev Kumar Mahto | Tissue Engineering | January 9-14, 2017 |
| Department of Mathematical Sciences | Dr. Rajesh Kr. Pandey and Prof. I.P. Singh | Advanced Numerical and Analytical Methods for Engineers and Scientists | January 12-18, 2017 |
| Department of Electrical Engineering | Dr. Sandeep Ghosh | Advanced Topics in Robust and Non-Linear Control | Feb 14-20, 2017 |
| School of Material Science and Technology | Dr. Chandan Upadhyay | Geometrical and Mathematical Crystallography with Applications to Structural Studies | Feb 14-20, 2017 |
| Department of Ceramic Engineering | Prof. Devendra Kumar | Advanced Functional Materials and Devices | March 2-9, 2017 |
| Department of Metallurgical Engineering | Dr. R. Manna | Steel Technology for Railways and Defence | March 2-9, 2017 |
| Department of Mining Engineering | Dr. S. Gupta | Advanced Technologies of Project Management(ATPM-2017) | March 2-9, 2017 |
| School of Bio-Chemical Engineering | Dr. Abha Mishra and Prof. Pradeep Shrivastava | Concepts on Process Engineering in BioTechnology | March 16-22, 2017 |
| Department of Mechanical Engineering | Prof. Satosh Kumar | Additive Manufacturing: Theory and Practice | March 16-22, 2017 |
| Department of Mathematical Sciences | Prof. T. Som | STC on Fuzzy Logic and Applications | March 20-26, 2017 |
| Department of Mechanical Engineering | Prof. A. Harsha | Materials Technology: Fundamentals and Recent Advances | March 23-29, 2017 |
| Department of Mechanical Engineering | Prof. S.P. Tiwari | Recent Advances in Casting and Welding | March 23-29, 2017 |

Design Innovation Centre

The Design Innovation Centre (DIC) is a joint project of the Banaras Hindu University (BHU) and IIT (BHU) Varanasi, funded by Department of Higher Education, MHRD, and Government of India.

The basic objective of the Design Innovation Centre is to provide a platform and necessary framework to students and faculty members to convert their innovative ideas into viable design models and working prototypes.

Setting up of the BHU - IIT (BHU) Design Innovation Centre is expected to promote a culture of innovation and creative problem solving, knowledge sharing and collaboration with industry, academia, government Institutions, research laboratories, etc., and to encourage interdisciplinary research and creativity focussed on design.

Besides the above said parameters, DIC will also work for its sustainability, and enable coordination for Intellectual Property Rights (IPR) works, and facilitate Artisans and local entrepreneurs in Design and Innovation.

The DIC is planned with multidisciplinary approach, and will be focusing mainly on the following key areas of social and national importance :Agriculture, Art & Culture, Energy, Environment, Language and Computing, Science and Technology.

Role of BHU in HUB position : BHU will be taking care of the multidimensional Design & Innovation projects and courses in the areas of Agriculture, Food Processing, Art & Culture, Health, Humanities, Branding for Artisans - Handicrafts (Aesthetics, Ethics, Values, Print Media, Web and management support).

Role of IIT (BHU) in HUB position : IIT (BHU) will specifically be taking care of the Technological and Engineering aspects related to design and innovation projects and course, and further, will be involved in prototyping and final development of the projects.

SPOKES

- Indian Institute of Information Technology, (IIIT) Allahabad.
- Motilal Nehru National Institute of Technology, (MNNIT), Allahabad.
- University of Allahabad, Allahabad

DELIVERABLES

DIC BHU and IIT (BHU), along with its SPOKES, run more than forty different projects related to Agriculture, Environment, Art, Culture, Science, Social Science, Technology, Nanotechnology and other similar areas of academia and society. DIC BHU has established a Graphic and Digital Media Lab with highly equipped computers and other

technical equipment. It has also established a Digital Innovation Gallery for demonstration of innovative projects in a digital format for researchers and students. DIC BHU has already run more than 5 different programmes to raise awareness of the culture of design among students and is also scheduled to organise a Diploma/Certificate course in Design and Innovation soon. The Centre is equipped with modern technologies like a 3D Printer and Scanner.

Events & Programs

Summer Workshop 2016

A 15-day Summer Workshop was held between 15th and 30th June 2016, for the current students of BHU. The workshop was for practical works and experiences, based on 'Innovation and Environment, Psychology behind Innovation Mind, Android application Development, Creativity and Innovation, Social Entrepreneurship and Innovation, Rural development & Innovation etc.' mentored by Academic and Professional Innovators and Experts. Fifty students participated in the Summer Workshop.

Design Friday

Design Innovation Centre has been conducting DESIGN FRIDAY on every working Friday since June 2016. Design Friday is a platform for presentation of ideas, discussion of creative solutions and exchanging ideas. More than 40



inquisitive innovators and students from Banaras Hindu University Campus have been taking part in successive sessions of Design Friday. The DIC has conducted over 19 Design Fridays so far.

KALAKSHAR 2015

Design Innovation Centre organized a National Seminar cum Workshop KALAKSHAR 2015 between 9th and 11th October 2015, at the Faculty of Visual Arts, BHU. 125 participants from different Art colleges of India took part and worked under the guidance of several professors in the premises of Vishwanath Temple, Assi Ghat and the Faculty of Visual Arts.

KALA MELA 2016

Design Innovation Centre partially sponsored KALA MELA 2016. It was organized between 7th and 10th April, 2016 in the Faculty of Visual Arts, Banaras Hindu University, Varanasi. More than 500 participants put in their efforts to make the Mela successful.

Sketch-O-Banaras

Sketch-O-Banaras was started in September 2016, and is open for anyone willing to present their innovative ideas through Sketches. The DIC welcomes innovators and viewers to visit the Centre with their Sketched Ideas at DIC Lab's Sketch-O-Banaras Corner. Followers can also present and upload their Sketched Ideas on the Facebook page of Sketch-O-Banaras.

Faculty Achievements

Akansha Dwivedi (Ceramic Engineering) was awarded the "Early Career Award" by Science and Engineering Research Board (SERB).

Santanu Das (Ceramic Engineering) was recognized as the "Country's Most Accomplished Professional" and his biography was enlisted in the Who's Who in America 2016. His PhD Thesis is amongst the top 10 most Accessed Dissertations on ProQuest's amongst over 2.5 million theses.

Hiralal Pramanik (Chemical Engineering) was awarded the Best Paper Award at CHEMCON 2016 held at Anna University, Chennai during 27-30, December 2016 in two categories: Membrane Technology and Petroleum Safety.

MA Quraishi (Chemistry) was appointed as a member, editorial board of the International Journal of Corrosion and Scale Inhibition, USSR and the Journal of Steel Structure and Construction, USA. MA Quraishi was also awarded the Prolific Researcher Global rank 2 and Indian rank 1 in the field of corrosion inhibition science and technology on the basis of H Index and citations on publications.

Krishna Kant Pathak (Civil Engineering) was Selected as a Fellow and Chartered Engineer, Institution of Engineers (India), Kolkata.

M.Thottappan (Electronics Engineering) has been awarded UK Commonwealth Professional Fellowship 2016 for 5 months from March to July 2017 at Faculty of Science and Technology, Lancaster University, United Kingdom.

Manoj Kumar Meshram (Electronics Engineering) was awarded the INSA-DFG Fellowship-2017: Germany for 3 months under the International Collaboration Program 2017

Satyabrata Jit (Electronics Engineering) was appointed as the Editor-in-Chief of Material Science Research India

Kishor Sarawadekar (Electronics Engineering) was awarded Visvesvaraya Young Faculty Research Fellowship for the period of May 2016 to April 2018.

Shailendra Kumar Shukla (Mechanical Engineering) was appointed as the Pro Vice-Chancellor of Ranchi University till 10th August 2016.

Debashis Khan (Mechanical Engineering) was a Visiting Researcher at the Zernike Institute of Advanced Materials, University of Groningen, The Netherlands between August and October, 2016.

Jahar Sarkar (Mechanical Engineering) was appointed as an editorial Board Member of the International Journal of Applied Engineering Research.

N.K. Mukhopadhyay (Metallurgical Engineering) was awarded the G D. Birla Gold Medal-2016 Award at the National Metallurgists' Day (NMD) function to be held in IIT Kanpur on November 14, 2016..

Suresh Kumar Sharma (Mining Engineering) was awarded the Senior Professional Engineer Award.

M S Muthu (Pharmaceutics) was appointed as the Editor-in-Chief for The Journal of Pharmacology and Toxicological Studies, USA for the period of 2016-2017. He also received the International Faculty Award (VIFA-2016) from Venus International Foundation, Chennai, India and the Best Young Scientist Award (2016) from the Pearl Educational Foundation, Madurai, India.

Brahmeshwar Mishra (Pharmaceutics) was awarded the Distinguished Professor Award 2017, by Computer Society of India (CSI) Mumbai Chapter, at CSI TechNext India-2017 at IIT, Bombay, the "Pharma Ratan Award 2016" by Rab Di Meher (NGO), New Delhi and also the Life Time Achievement Award during the Aufau International Awards 2016 organized by Chemical Science Review and Letters.

Sushant Kumar Shrivastava (Pharmaceutics) was awarded the Illustrious Aluminous Award from "Dr. H.S. Gour Vishwavidyalaya, Department of Pharmaceutical Sciences, Sagar (M.P.). Best Poster Award for the presentation entitled "Synthesis, evaluation and docking studies of some novel 1,2,4-triazine derivatives bearing five member

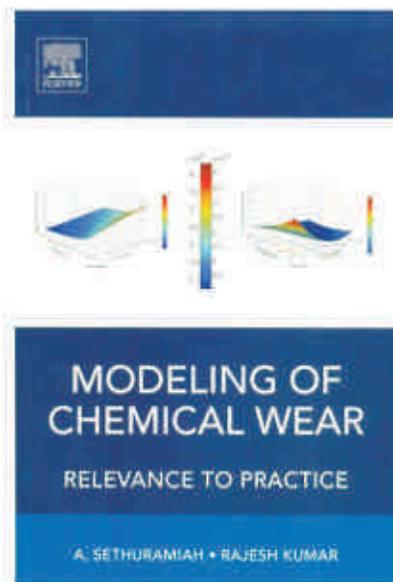
heterocyclic moiety as potential anti-inflammatory and analgesic agents" in "Pharma Middle East - 2015" held from 02nd - 04th, November 2015 at Dubai, UAE."

Sanjay Singh (Pharmaceutics) was appointed as Member of the Scientific Body of the Indian Pharmacopoeial Commission appointed by the Ministry of Health and Family Welfare, Govt. of India. He also served as a member of the ICMR Project Screening Committee

Prabhakar Singh (Physics) has been selected under the Short Term Mobility programme by Council of National Research (CNR), Institute for Energetics and Interfaces (IENI), Genova, Italy.

The Department of Physics organized Ishan Vikas programme, a comprehensive programme to introduce school children from the North-Eastern states to institutes of higher education in India. Dr. Debaprasad Giri was the coordinator for the same.

Rajesh Kumar (Mechanical Engineering) published a book on "Modelling of Chemical Wear – Relevance to Practice" (Elsevier).



Front cover of the book published by Prof. Rajesh Kumar

Invited Talks

Ashish Kumar Singh (Biochemical Engineering)

- Invited Talk during 25-26 Feb, 2016 at SHIATS, Allahabad.

Akansha Dwivedi (Ceramic Engineering)

- Invited Talk at Annual meeting of American Ceramic Society in Materials Science and Technology (MS&T-16) Salt Lake City Utah. USA

Santanu Das (Ceramic Engineering)

- Invited Keynote address at UK-India Workshop on Integrated Renewables for Autonomous Power Supply and Fuel Generation, August 1st-2nd, 2016 at Environment and Sustainability Institute, University of Exeter, UK
- Two Invited talks on 26th and 27th October 2016 at the Department of Physics and Astrophysics, University of Delhi for the "Refresher Course in Physics" organized by The Centre for Professional Development in Higher Education (CPDHE), UGC-HRDC.
- Invited as a Chair person and delivered a Keynote Lecture at National Seminar on Instrumentation and Characterization Techniques at Banasthali University Banasthali, Rajasthan.

JP Chakraborty (Chemical Engineering)

- Invited Talk at Auburn University, Alabama, USA on 30th June, 2016

Jeyakumar Kandasamy (Chemistry)

- Invited Talk at 1st International Bio-Molecular Systems conference held at Harnack-Haus, Ihnestraße 16-20, 14195 Berlin-Dahlemm, Germany during November 11-13, 2016.
- Invited Talk on Recent Innovations in Organic Synthesis-2016 (RIOS-2016)" during 15th and 16th December 2016, Periyar University, Salem, Tamil Nadu.

MA Quraishi (Chemistry)

- Invited talk delivered at International conference on recent advances in science and applied sciences at Lovely University Punjab, Nov 2016.

Sundaram Singh (Chemistry)

- Invited Talk at first International conference on pharmaceutical chemistry, 5-7 September, 2016 at Frankfurt, Germany

Ankit Gupta (Civil Engineering)

- Invited Talk at Jawaharlal Nehru Government Engineering College (JNGEC) Sundernagar, Himachal Pradesh on 19th August 2016 on the topic "Highway Geometric Design and Road Safety".
- Invited Speaker in Seminar on "Urban Transport Corridors" at Visakhapatnam (AP) on 21-22 Oct 2016 by International Association of Bridge and Structural Engineering (IABSE).

Krishna Kant Pathak (Civil Engineering)

- Invited Talk on Topic: Applications of Modelling and simulations in design and manufacturing Date: 02/09/2016, Amity University Rajasthan, Jaipur

K K Shukla (Computer Science & Engineering)

- Keynote address at ICCIDM 2016 held at KIIT University on 9-10 December, 2016.
- Keynote address in the International Workshop on Computational Intelligence and Application held at South Asian University, New Delhi on 23-25 May, 2016.

Rajeev Srivastava (Computer Science & Engineering)

- Keynote address on topic "Selected research topics in image processing, computer vision, and pattern classification: A machine learning perspective" at IEEE International Advanced Computing Conference (IACC-2017) at VNR VJIE, Hyderabad on 07.01.2017.

Anil Kumar Singh (Computer Science & Engineering)

- Invited talk on Issues in Annotation of Language Resources, April, 2016, MGAHV, Wardha
- Invited talk on Using the Sanchay Annotation Interface for Indian Languages, April 2016, Goa University, Goa

M. Thottappan (Electronics Engineering)

- Invited Talk on "Advances in RF Interaction Circuits for High Power Gyrotron Traveling Wave Amplifiers" at Venus International Research Foundation, Chennai on 03/12/2016

Manoj Kumar Meshram (Electronics Engineering)

- Delivered invited talks on the topic ""Microstrip Antennas"" on 6 January 2017 at IIT(ISM) Dhanbad during Refreshers Course on "Recent Trends on Microwave Devices and Antennas", 26 Dec 2016 to 15 Jan 2017:

Satyabrata Jit (Electronics Engineering)

- Delivered invited Talk on December 09, 2016 at the International Conference on Allied Electrical and Communication Systems (ICAECs-2017) organized by the Vignan University, Guntur, A.P.
- Delivered invited Talk on November 30, 2016 in the UGC-Sponsored Refresher Course on "VLSI Design and Nanotechnology: Issues and Challenges" organized by the Jadavpur University, Kolkata.
- Delivered invited Talk on July 29, 2016 in the workshop ""Emerging areas of Electronics and Communication Engineering"" organized by the Department of Electronics and Telecommunication Engineering, Jadavpur University, Kolkata.
- Invited Talks delivered on July 11, 2016 in the Faculty Development Program on Integrated Circuits: Design and Applications organized by the United Institute of Technology, Allahabad during July 11-15, 2016.

Kishor Sarawadekar (Electronics Engineering)

- Invited expert (for four days) in National level two weeks STTP on "Recent Trends in VLSI and Embedded Systems", MITCOE, Pune, Maharashtra
- Invited expert (for four days) in the workshop on "Smart Embedded VLSI System and Hands on Training", Shivaji University, Kolhapur, Maharashtra

Prasanta Kumar Panda (Humanistic Studies)

- Delivered an invited lecture on: "The Condition of Literature Studies in a World Conditioned by Theories: Perceptions and Perspectives" in the Dept. of English, Mohanlal Sukhadia University, Udaipur.

Tanmoy Som (Mathematics and Computing)

- Invited Talk on "Fuzzy Informative Evidence Theory and Application in Project Selection Problem" at the World Conference on Soft Computing (WConSC-2016), held at University of California, Berkeley (USA) during May 22-25, 2016.

Shailendra Kumar Shukla (Mechanical Engineering)

- Invited as chief guest for STC on Alternate Energy at NIT Goa on December 05, 2016
- Delivered Lecture on Solar Thermal Energy storage during December 06, 2016 at NIT Goa

Santosh Kumar (Mechanical Engineering)

- Invited Talk on 'Additive Manufacturing & Applications' March 13, 2016 at MMTU, Gorakhpur (UP)

Rashmi Rekha Sahoo (Mechanical Engineering)

- Invited Talk at Ashoka Institute, Varanasi, Nov-2016

Rajiv Kumar Mandal (Metallurgical Engineering)

- Keynote address in an International Conference on Nanomaterials, Department of Chemistry (BHU), December 2016

Kausik Chattopadhyay (Metallurgical Engineering)

- Invited Talk in Prof. K.K. Ray symposium in 'The 4th International Conference for Advanced Materials and Materials Processing' (ICAMMP-IV) during 5th to 7th Nov 2016 held in IIT Kharagpur

Girija Shankar Mahobia (Metallurgical Engineering)

- Invited Talk on 'Metallurgy in Welding' at Indian Railway Welding Research Institute (IRWRI) - DLW Varanasi on 17.1.2017

N.K. Mukhopadhyay (Metallurgical Engineering)

- Invited Lecture in International Conference on Metals and Materials Research (ICMR 2016), IISc, Bangalore, June 20-22, 2016.
- Invited Lectures: Two lectures in Workshop on Materials Characterization: Principles and Practices, IEST, Shibpur July 25-August 5, 2016.
- Invited Lecture in NMD-ATM 2016 of Indian Institute of Metals at IIT Kanpur (November 11-14, 2016).

Rajesh Rai (Mining Engineering)

- Invited Talk on Delivered an invited lecture on "Dump Slope stability", in Dec. 10, 2016, in Krishnshila Project NCL, Singrauli.

Suresh Kumar Sharma (Mining Engineering)

- Delivered lecture at the Executive Training and Development Programmeduring Dec. 27-29, 2016, organized by the International Center of Excellence in Mining Safety and Automation (iCEM), Ahmedabad.

Brahmeshwar Mishra (Pharmaceutics)

- Invited talks on 5th January, 2017 and on 21st September, 2016 at Faculty of Ayurveda, IMS, Banaras Hindu University, Varanasi.
- Invited talk during 76th orientation course at UGC-Human Resource Development Centre, Banaras Hindu University, 15th November – 12th December, 2016, Varanasi.

Senthil Raja A (Pharmaceutics)

- Invited Talk during a National Seminar held on 05 November 2016 at Nirmala College of Pharmacy, Cochin, Kerala.

Sanjay Singh (Pharmaceutics)

- Invited Talk on "Pharmacy: Education and Scope" at Institute of Pharmaceutical Science and Research (IPSR), Lucknow, U.P. India.
- Invited Talk on "Nanotechnology for Efficient Utilization of Herbal Drugs" in National seminar on "Recent Advances and Scope in Herbal Technology: Challenges and Prospects – 2016 organized by Dept. of Pharmaceutical Sciences, Assam University, Silchar, India.

Abhishek Kumar Srivastava (Physics)

- Invited talk on "Observations of Fast Sausage Waves in Solar Magnetic Structures and Diagnostics Capabilities", in IBUKS-2016, 13-17 June 2016, at KU Leuven, Belgium.
- "On the Estimation of Streamer's Magnetic Field in the Outer Corona by Observed Kink Wave", 25 November 2016, Sheffield University, United-Kingdom."
- Conducted a mini Workshop on Spin-orbit interaction and related phenomena at Max Planck Institute of Microstructure Physics, Halle, Germany

R. Manna (Metallurgical Engineering)

- "Development of Ultra High Strength Steel Processed by Severe Plastic Deformation Methods", in NCETFF-2016, Nov 25-26, 2016, at NIFFT, Ranchi
- Delivered Keynote talk on "Effect of Flash Annealing on Ultrafine-Grained Low Carbon Steel" along with Raj Bahadur Singh, N. K. Mukhopadhyay, G. V. S. Sastry and R. Manna at the 4th International Conference on Thermo-mechanical Simulation and Processing of Steels (SimPro'16), February 10-12, 2016, RDCIS at SAIL, Ranchi.

GIAN Courses

The Govt. of India approved a new program titled **Global Initiative of Academic Networks (GIAN)** in Higher Education aimed at tapping the talent pool of scientists and entrepreneurs, internationally to encourage their engagement with the institutes of Higher Education in India so as to augment the country's existing academic resources, accelerate the pace of quality reform, and elevate India's scientific and technological capacity to global excellence.

- A GIAN Course was organised at the Department of Physics, titled **"Advanced Fluid Dynamics and Applications"** from **September 12 to September 22, 2016**. Dr. A.K. Srivastava of the Department of Physics was local course coordinator for the same, which drew 30 participants. The expert International faculty member for the occasion was Prof. Robertus von Fay-Siebenburgen.

Solar & Space Plasma research deals with the heating processes that generate and sustain the observed high temperature of the solar and stellar atmospheres which have so far defied a quantitative understanding despite the multitude of efforts spanning over half a century.

Prof. Robertus von Fay-Siebenburgen (a.k.a Robertus Erdelyi, as publishing) is working as a professor and head of Solar Physics and Space Plasma Research Centre in School of Mathematics and Statistics, University of Sheffield, UK. He is also the Director of Debrecen Observatory in Hungary. Prof. Erdelyi is one of the world leaders in the field of solar & space plasma research with an outstanding track record of publications in peer-reviewed journals. He has been a part of similar programmes at Nanjing University, China, University of Balears, Mallorca, Spain, IAC, Tenerife, Spain, to name a few. In China, he contributed significantly to a new solar mission where he is now the Chief Scientific Advisor. He is also a scientific advisor in various Indian national projects, e.g., NLST, MAST etc, and therefore, has a significant role in Indian Solar Physics. Solar Physics and Space Physics Research Group (SP2RG) member Dr. A.K. Srivastava has been, for a long time, collaborating with Prof R. Erdelyi. Therefore the proposed teaching collaboration will also support and strengthen cutting-edge research in the field of Solar and Space Plasma Physics.



- A GIAN workshop was held from 19th to 23rd December 2016 on **"Nanochemistry: From Preorganized Molecular Architectures to Functional Materials"**. The course coordinator and host faculty was **Dr. Indrajit Sinha, Department of Chemistry, IIT(BHU)**. A total of 43 participants consisting of young faculty, post-doctoral fellows, PhD students and also senior B.Tech/MTech students attended the workshop.

As per the GIAN framework, the majority of lectures were delivered by the renowned International expert of this area, Prof. Sanjay Mathur, Director, Institute of Inorganic Chemistry, University of Cologne, Germany. This course focused on the inherent relationship between synthetic and material chemistry, and demonstrated how chemically processed nanoparticles, nanowires and films of different metal oxides open up new vistas of material properties, which can be transformed into advanced material technologies. The lectures were conducted in a highly interactive manner. Besides this, each day of the workshop ended with a question-answer session between the faculty and participants. On the penultimate day, Prof. Mathur also delivered a lecture on the **"Business of Chemical Nanotechnologies"** which enlightened the participants on commercial opportunities. Since this was a one-credit (or 14 lecture) course, a written exam was also conducted on the last session of the workshop. Furthermore, on the request of the participants, he also delivered a talk on internship, doctoral and post-doctoral opportunities in Germany. The workshop concluded with a valedictory session, which saw active feedback from a large number of participants.

- The Department of Mechanical Engineering organized a two week GIAN course on a subject titled **"Project**

Management for Organizational Excellence" from 22nd August to 2nd September, 2016. Prof. Anil Kumar Agrawal, Head, Department of Mechanical Engineering and Professor-In-charge of Training & Placement Cell at IIT (BHU), Varanasi was the host faculty member.

The main aim of the programme was to understand project failures measured in terms of unwarranted heavy cost, inconvenience to public, opportunity of deriving benefits from an early project completion, and having an edge over others particularly from the projects of strategic importance.

The resource faculty member for the occasion was Dr. Manu K. Vora, Chairman and President of Business Excellence Inc. (USA), and Adjunct Professor at the School of Professional Studies, Northwestern University, Evanston, IL, USA. He received his B. Tech. (Honors) from IIT (BHU), Varanasi, India in Chemical Engineering (1968). He completed his M.S. and Ph.D. from the Illinois Institute of Technology, Chicago (USA), and MBA in Marketing Management from the Keller Graduate School of Management, DeVry University, Chicago, IL (USA). With over 41 years of leadership experience, he has assisted Fortune 500 companies with Baldrige Performance Excellence framework implementation.

Prof. A. K. Agarwal, with over 35 years of teaching experience, has Quality Control, Six Sigma, Operations Management, Supply Chain Management, Optimization and Industrial Engineering among his fields of interest and expertise.

The course coordinator was Dr. Prabhas Bhardwaj, Associate Professor, Mechanical Engineering Department, IIT(BHU), Varanasi.

IMPRINT

IMPRINT is a first of its kind MHRD-supported Pan-IIT and IISc joint initiative to address the major science and engineering challenges that India must address and champion to enable, empower and embolden the nation for inclusive growth and self-reliance. This novel initiative with twofold mandate is aimed at:

- Developing new engineering education policy
- Creating a road map to pursue engineering challenges

IMPRINT provides the overarching vision that guides research into areas that are predominantly socially relevant. The following research proposals at IIT (BHU) have been accepted under the IMPRINT scheme.

- Propagation & Mitigation Model of Mixed Road Traffic Noise for Planning of Mid-sized India Cities by Dr.Brind Kumar
- Development of high strength ceramic magnet for rotating machine applications by Dr.Pradip Kumar Roy
- Analytical Modeling, Design, PIC simulation and Development of Gigawatt range of pulse HPM Oscillator-Reltron by Prof. P.K. Jain

MOUs

MOUs with National Organizations in Financial Year 2016-17 as on 05.01.17

- Department of Biotechnology, Ministry of Science and Technology, Government of India, New Delhi (21.04.16)
- M/s Clean Max Enviro Energy Solution Pvt. Ltd. (SECI) Solar Energy Corporation of India (04.07.2016)

MOUs with International Organizations in Financial Year 2016-17 as on 05.01.17

- Ming Chi University of Technology, New Taipei, Taiwan (21.04.2016)
- University of Wollongon, NSW, Australia (UOW) (02.06.2016)
- Institute of Solar-Terrestrial Physics (ISTP), Siberian Branch of Russian Academy of Science, Irkutsk, Russia (13.08.2016)
- Max Planck Institute of Colloids and Institute (MPIKG) Potsdam, Germany (17.08.2016)

Patents Filed

| Title | Inventor's Name | Department |
|---|--|--------------------------------|
| Advanced Electrode materials for Superior Pseudocapacitors and Reversible Alkali-ion (Li+ /Na+) Batteries | Dr. Preetam Singh, Prof. Rajiv Prakash | Ceramic Engg/ SMST |
| New Thermal Insulating Material Developed Using Biomass for furnace and Structural Purpose | Dr. Manas Ranjan Majhi, SK Saddam Hossain, Aman Bhardwaj | Ceramic Engg. |
| Topical Composition for treatment of Burns with Enhanced Penetration and method of Formulating The Same | A.K. Srivastava, Aparajita Dutta, Gyanendra Singh | Pharmaceutics |
| A method for controlled Biodegradation of biopolymer using Inorganic Salt and product thereof. | Prof. Pralay Maity, Mr. Arpan Biswas | SMST |
| Composition and process of developing a new building bricks using demolition waste, Industrial waste, Agriculture waste for application in construction purpose. | Dr. Manas Ranjan Majhi, SK Saddam Hossain, Aman Bhardwaj | Ceramic Engg. |
| Process of synthesis of Cerium (IV) pyrophosphate (doped and undoped) with sheet/ honeycomb structure. | Dr. Bhupendra Singh | Ceramic Engg. |
| Pyrophosphate - carbonate composite Ionic Conductors and Process of producing the same. | Dr. Bhupendra Singh | Ceramic Engg. |
| Eco friendly maintenance of desktop computers in computer labs of institutions. | Dr. C. Ravindranath Chowdary | Computer Science & Engineering |
| A process to produce high energy Sr based permanent magnet for rotating machine application | Dr. P.K. Roy, Ms. Deepshikha Shekhawat | Ceramic Engg. |
| A method to enhance piezoelectric and strains properties of lead free (Ba,Ca _{0.02} Sr _x) (Ti _{1-y} Zr _y) O ₃ ceramics | Dr. P.K. Roy | Ceramic Engg. |
| Radially coupled cavity high pulse power microwave oscillator of gigawatt range for long repetitive pulse operation. | Mr. Manpuran Mahto, Prof. P.K. Jain | Electronics Engg |

List of Sponsored Projects started during 2016-17

| Title of Project | PI(s)/Co-PI(s) | Department | Funding Agency | Duration of Project |
|--|--|-----------------------|-------------------------|---------------------|
| Polymeric Nanobiohybrids for Tissue Engineering and Drug Delivery | Prof. Pralay Maiti | SMST | SERB | 3 Years |
| Development of a Rubber based sheet Hydro forming setup | Prof. Santosh Kumar | Mechanical | DRDL, CARS Hyderabad | 2 Years |
| Studies on Improvements in Stiffness of Aluminum Alloy Fibres | Dr. Rampada Manna/ Dr. K. Chattopadhyay | Metallurgical Engg. | D.R.D.O., CARS, Jodhpur | 18 months |
| Photolabile Protected Monosaccharides: Synthesis and Application to Oligosaccharides Synthesis Using a Continuous flow | Dr. Jeyakumar Kandasamy | Chemistry | DST, New Delhi | 3 year |
| Evaluation of some compounds in experimental Alzheimer Disease | Dr. Sairam Krishnamurthy | Pharmaceutics | Natreon Inc., U.S.A. | 2 years |
| Design Investigations of High Power MM Wave W Band Gyatron | Prof. P.K. Jain/ Dr. M. Thottappan | Electronics | SERB | 2 Years |
| Development of high Through put Processing route for CIGS PV absorber films by spray pyrolysis of Pre-synthesised Nanoparticle Ink | Dr. M.I. Ahmand/ Dr. S. Das | Ceramic | SERB | 3 Years |
| Development of low voltage, low power, colloidal quantum dot light-emitting transistors for next generation display technology | Dr. Bhola Nath Pal/ Prof. P. Maiti | SMST | SERB | 3 Years |
| Pharmacological Effect of novel formulation in experimental allergic encephalomyelitis rodent model | Dr. Sairam Krishnamurthy | Pharmaceutics | DISTO Pharmaceutics | 1 Years |
| Fabrication of low-cost High-through out Flow Cytometer using tunable nanolenses. | Dr. Ankur Verma | Chemical Engg. | DST, New Delhi | 3 Years |
| Numerical methods for integral equations and differential equations by using Wavelets and operational matrix | Dr. Vineet Kumar Singh | Mathematical Sciences | SERB, New Delhi | 3 Years |
| Seamless synthesis of large area 2D transition metal dichalcogenide semiconductors and their applications in next generation high-performance optoelectronic devices | Dr. Santanu Das/ Dr. BholaNath Pal | Ceramic Engineering | SERB, New Delhi | 3 Years |
| Development of solution methods for Abel's integral equations and generalized Abel's integral equation | Dr. Rajesh Pandey | Mathematical Sciences | DAE, Mumbai | 3 Years |

FACULTY APPOINTMENTS

| S. No. | Name of Faculty Member | Designation | Department | Appointment Date |
|--------|---------------------------|--------------------------------|----------------------------------|------------------|
| 1 | Dr. Mohd. Imteyaz Ahmad | Assistant Professor | Ceramic Engineering | 01.02.2016 |
| 2 | Dr. Gyan Prakash Modi | Assistant Professor | Pharmaceutics | 04.02.2016 |
| 3 | Dr. Joysurya Basu | Associate Professor | Metallurgy Engineering | 04.02.2016 |
| 4 | Dr. Sukomal Pal | Assistant Professor | Computer Science and Engineering | 24.02.2016 |
| 5 | Dr. Santanu Das | Assistant Professor | Ceramic Engineering | 02.03.2016 |
| 6 | Prof. Krishna Kant Pathak | Professor | Civil Engineering | 06.04.2016 |
| 7 | Dr. Om Prakash Singh | Associate Professor | Mechanical Engineering | 11.07.2016 |
| 8 | Dr. Shyam Kamal | Assistant Professor (contract) | Electrical Engineering | 01.08.2016 |
| 9 | Dr. Sandip Ghosh | Assistant Professor | Electrical Engineering | 02.08.2016 |
| 10 | Dr. Vishal Mishra | Assistant Professor | Bio-chemical Engineering | 15.09.2016 |
| 11 | Dr. Ashish Kumar Mishra | Assistant Professor | SMST | 01.10.2016 |
| 12 | Dr. Ashish Kumar Singh | Assistant Professor | Bio-chemical Engineering | 04.10.2016 |
| 13 | Dr. Sanjay Kumar | Assistant Professor | Bio-chemical Engineering | 05.10.2016 |
| 14 | Dr. Debdas Ghosh | Assistant Professor | Mathematical Science | 08.10.2016 |
| 15 | Dr. Sunil Kumar | Assistant Professor | Mathematical Science | 17.10.2016 |
| 16 | Dr. Shrawan Kumar | Assistant Professor | SMST | 16.11.2016 |
| 14 | Dr. Amitesh Kumar | Assistant Professor | Mechanical Engineering | 15.12.2016 |
| 15 | Dr. Sanjay Kumar | Assistant Professor | SMST | 19.12.2016 |
| 16 | Dr. Somak Bhattacharyya | Assistant Professor (contract) | Electronics Engineering | 16.11.2016 |

Faculty Retirements

1. Prof. S. P. Singh (Professor) - Electronics Engineering - 31.01.2016
2. Prof. A.K. Aggarwal (Professor) - Computer Science - 31.03.2016
3. Shri Amar Nath (Associate Professor) Ceramic Engineering - 30.06.2016
4. Prof. K.K. Srivastava (Professor) Chemical Engineering - 30.06.2016
5. Dr. Gopal Sharma (Associate Professor) Electrical Engineering - 30.06.2016
6. Prof. R.R. Das (Professor) Electronics Engineering - 30.06.2016
7. Prof. M.A. Qurashi (Professor) Chemistry - 30.06.2016
8. Prof. D.N. Vishwakarma (Professor) Electrical Engineering - 31.08.2016
9. Prof. A.K. Ray (Professor) Biomedical Engineering - 30.11.2016

10. Shri P.K. Mukherjee (Associate Professor) Electronics Engineering - 30.11.2016

Faculty Expired

1. Prof. O.P. Singh (Professor) Mathematical Science - 14.01.2016
2. Prof. Ranjana Ghose (Professor) Chemistry - 25.07.2016

Faculty Resignations

1. Dr. Vikas Kumar (Associate Professor) Department of Pharmaceutics - 26.09.2016
2. Dr. Somdeb Bose Dasgupta (Associate Professor) School of Biomedical Engineering - 17.10.2016

Non-Faculty Appointments (Since May 2016)

- Security Officer (Group-A) - Shri Shashank Shekhar Prasad Singh
- Assistant Engineer (Civil) - Shri Atul Kumar Singh
- Assistant Engineer (Electrical) - Shri Prem Chandra Mishra
- Junior Engineer (Civil) - Shri Shitala Prasad
- Assistant Security Officer-
- a. Sri Sanjay Kumar Sharma
 - b. Sri Amar Nath Yadav
 - c. Sri Abhishek Kumar Singh
- Junior Translator (Hindi) - Shri Shashank Pathak

Publications

**"We don't write because we want to, we write because we have to"-
Somerset Maugham, noted English novelist.**

IIT BHU is committed to being a leading research institution. Since January, 2016 over 788 Papers have been published.

Total Papers Published since January 2016 : 788

Research Published in over 130 Journals
Research performed in collaboration with over 157 Educational and Research Institutions

Research performed in collaboration with over 40 countries

Top Journals

Journal of Alloys and Compounds
Journal of Industrial and Engineering Chemistry
Applied Physics Letters
ACS Applied Materials and Interfaces
Frontiers in Microbiology
Scripta Materialia
Renewable and Sustainable Energy Reviews
RSC Advances
IEEE Transactions on Electron Devices
Optics Letters

Collaborations

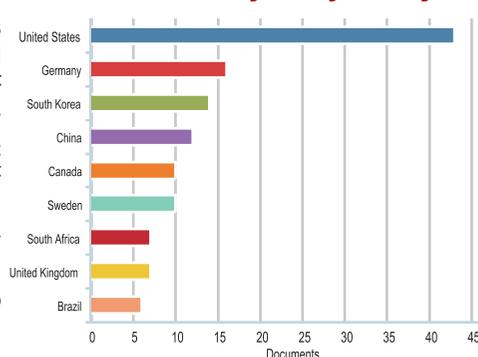
IIT BHU has published in collaboration with over 157 Educational and Research

Institutions from 42 countries. Internationally, collaborative research is performed with top Institutions and research centers including University of Ottawa (Canada), Texas A & M University and National Oceanic and Atmospheric Administration(US), Korea Institute of Science and Technology (South Korea), Swinburne University of Technology (Australia), Nanjing University (China). Besides sister IIT's and other top universities, IIT (BHU) collaborates with leading national research centers such as the Bhabha Atomic Research Centre, Central Drug Research Institute, Indian Maritime University, International Centre for Agricultural Research and the Indira Gandhi Centre for Atomic Research.

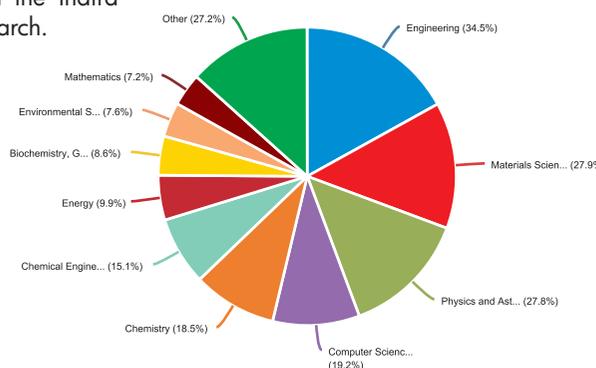
Documents by type

Article (69.3%)
Conference Paper (19.3%)
Article in Press (7.5%)
Review (2.7%)
Book Chapter (0.5%)
Letter (0.3%)
Note (0.3%)
Erratum (0.1%)

Collaborations by country/territory



Documents by subject area



Student Achievements

Gourav Modanwal (Research Scholar, Electronics Engineering) was honored by the Hon'ble President of India as a part of "In-Resident Programme" held in Rashtrapati Bhavan, New Delhi, June 18-24, 2016. He was also selected among India's Top 51 Innovator and Entrepreneur at 8th India Innovation Initiative National Fair 2016 by Confederation of Indian Industry (CII) in partnership with DST and AICTE, Government of India.

A team of Naman Singhal, Shubham Jaiswal, Rishabh Babeley, Devendra Gupta, Jagjeet Shyamkunwar were winners of Ericsson Innovation Awards 2016 and Finalists of Gitex Technology Week (Student Lab Competition), Dubai, (October 2016)

A team of 4 students - Archit Agarwal, Saurabh Chopra and Vishnu Pandey and Anvish Kumar Ravi of the Department of

Mechanical Engineering will represent India in the Finals of Global Student Challenge to be held in March in Zwolle, Netherlands.

A team comprising undergraduates Pratyush Chowdhury, Dhruv Chawla and Debjyoti Biswas won Hult Prize India Finals and will compete at the world regional finals in Dubai, in March 2017.

Piyooosh Sharma, a Research Scholar from the Department of Pharmaceutics was awarded "Young Scientist Award" in the newer areas of "Drug Chemistry" from Department of Health Research, Ministry of Health and Family Welfare, New Delhi

Sumit Swarnamaya from the Department of Mining was awarded 1 lakh rupees under "Odisha Youth Innovation Fund Scheme" for having developed a machine/prototype for the farmer of India known as improved parabolic unit. This machine is also being

used by farmers in different areas.

Jaseel Muhammed Keloth, from the School of Biomedical Engineering, was a recipient of the Khorana Scholarship, 2016.

Abhimanyu Soni, Ayushi Bansal, Yash Jain, Mehak Goyal, Himanshu Gupta, Mohammed Fadil, Meenal Baheti, Ketan Ganne, Abhinav Dangi, Manuj Singh, Juhi Singh, Ishita Vyas, Yash Mittal, Arpit Bhardwaj, Kazim Abbas and Vikram Kumar have been selected for DAAD-WISE Scholarship 2017.

Shashwat Sinha from the School of MST won the 2nd prize in overall student paper presentations held at the International Conference on Ceramics, Glass and Refractories: Emerging Innovations (2016).

STUDENT PARLIAMENT

Ushering in a new epoch for the Institute of Technology (BHU), the long awaited conversion to an Indian Institute of Technology in 2012 brought with it the great belief of making an already prestigious institution on par with the top-notch universities of not only our country but all across the globe. Being mirrors to the society in one of the fastest growing economies of the world, the need to replicate democratic principles was evident. The approval for student empowerment began in the academic session of 2014-15 and culminated with the election of the 1st Students' Parliament in Jan 2015. It was done in accordance with the Students' Constitution that came into effect following approval from the Senate, under the patronage of our Hon'ble Director, Prof. Rajeev Sangal.

The 1st term of the Students' Parliament, spanning one and a half years, laid the foundation for strong student representation at all levels. Not only does the Parliament discuss issues affecting students' lives, it includes various committees, representing different aspects of students' lives, which stitch together to ensure its smooth working.

The several standing committees of the Students' Parliament are headed by their respective Convenors. The various activities of the clubs in the Institute which are a part of the Students' Gymkhana are coordinated by appointing various General Secretaries and Secretaries through a voting process involving the respective club members. They form the executive wing of the Parliament.

The various committees of the Parliament include:

Finance Committee

This committee is responsible for ensuring financial transparency of the Gymkhana as well as allocating the Gymkhana funds to different councils and the festivals. It also maintains accountability and creates reserves for the future committees to come.

Parliamentary Affairs Committee

It is responsible for keeping the functioning of the parliament smooth and consistent,

making necessary amendments in the Students' Constitution and evaluating the various committees on their performance regularly.

Festivals Committee

This committee deals with matters related to the various festivals organized in the institute including room allotment and appointment of Convenors.

Emergency Committee

It is responsible for calling any emergency meetings of the Parliament as and when the hour demands.

Nominations Committee

It appoints members to the Parliament as the previous session members graduate.

Hostel Affairs and General Welfare Committee

It deals with matters related to the functioning of hostels such as managing mess payments, as well as coordinating with other committees to ensure welfare of the resident students.

Security Committee

It oversees the safety arrangements of the campus at all times such as installation of CCTV cameras, street lights as well as increasing the guard count. It acts as the student interface for the Institute Proctorial Board.

Training & Placement Committee

Some of the tasks performed by this committee include ensuring a smooth placement session and representing the students in the Training and Placement Cell.

Web Management Committee

Members of this committee are responsible for looking after the websites of Gymkhana, festivals and student related activities as well as maintaining them with the appropriate information. Besides, the committee also resolves any Internet connectivity issues in the college.

UG and PG Academic Affairs Committees

It is involved with matters pertaining to the course curriculum, semester exchange, credit transfer as well as issues affecting Ph.D students.

Alumni Relations Committee

This committee deals with organizing interactive sessions with the visiting Alumni for current students, as well as Alumni Talks and Mentorship Programs for the students.

Grievance Redressal and Enquiries Committee

The committee solves issues put forward by students and redirects them to respective committees whenever required.

Multiple resolutions have also been passed by the second Parliament to support student activities in the institute. With this in mind, the motion to establish a PR Cell was passed and a proposal to set up the same has been tabled. Recently, via the Parliament, a fifth Council has been founded under the IIT Gymkhana - the Council for Social Services. The post bearers for the new Council have been appointed and it shall serve a full-fledged body from this session. For the current academic session, the total Gymkhana budget, including the plan and non-plan funds, is Rs. 1.18 Cr, which has been appropriately distributed to all student activity bodies.

DoSA (Prof. Ashim K. Mukherjee)
I think the Students' Parliament is a good beginning. We have been able to firmly establish it as an integral component of student life here. Of course when the first session of the Parliament came up, there were huge expectations that it would change the institution radically, but it didn't happen because after all, the institute is run by administrators. But students started contributing fresh ideas which are helping us achieve the greater goals. The Students' Parliament has raised quite a few issues and brought them to the attention of the administration. Parliamentarians have highlighted activities and initiatives which have crossed their deadlines and helped accelerate their implementation by the relevant authorities in the Institute.

Student Council Activities

Cultural Council

Competitions

The dance group DFZ of dance club stood first at THOMOSO, IIT Roorkee. They also secured the third position at the Inter-IIT Cultural Meet, 2016.

Saurabh Mishra and Faraz Nomani secured the first position in solo and classical solo singing competitions respectively, in Oasis, held at BITS Pilani.

The team of Yatharth Dahiya, Ved Vineet, Vaibhav Kumar Dixit secured second position in the TV Quiz at Antaragni, IIT Kanpur.

Abhinav Dasiga stood third in English Poetry Slam at the Inter-IIT Cultural Meet, 2016. In the same Meet, the street play performed by Masquerades (Theatre Club) was highly appreciated.



Events Organised

The CULTURAL WEEKEND was held with an aim of engaging the entire college fraternity, under which some exhilarating events were organized in different fields. Notable mentions include STRING'S EVE –an evening of full of musical performances held at Limbdi corner, a performance by The Western Music Club during the ACOUSTIC NIGHT, and a fine arts extravaganza open to the entire university. A captivating event was the BANARAS LIT FEST which brought together speakers and panelists like Aseem Chhabra, Piyush Jha, Kulpreet Yadav, Sanil Sachar, Sachin



Garg, Chandana Roy under one roof, with discussions on current social-political issues. Kavi Sammelan featured stalwarts like Sunil Jogi Rupesh Saxena and Sikha Mishra. These events and workshops earned the LIT FEST special recognition from the Prime Minister's Office.

The 5th edition of IITBHU MODEL UNITED NATIONS, which was held in September 2016, witnessed participation of 450+ delegates, with participants coming from around 40 colleges across the country.

The group 'Nakshatra Gurukul' from Bhubaneswar showcased Gotipua - Odissi folk dance organized in association with SPIC MACAY (Society for Promotion of Indian Classical Music and Culture Amongst Youth).

To provide the first platform for freshers to showcase their talent, AGAMAN, a week-long event consisting of inter-branch competitions, was held.

Science & Technology Council

Competitions

8 teams from Aero-Modelling Club (2 teams from first year) stood among top 30 teams winning 5000 rupees each in the biggest RC plane event of India organized by Boeing.

The team of Sampriti Mitra and Shreemoyee Sarkar finished among the top 6 teams in "Hack in Heels" organized by Walmart Labs at Bangalore in December, 2016.

The team of Nitin Gera, Om Kumar Sahoo and Adarsh Kumar bagged the first



position at the on-site finals of GS Quantify 2016, held at Bangalore.

Yash Mehrotra bagged first position in Tesco Technology Codeathon 2016 out of 500+ coders across India.

The team of Mayank Panchal, Rishabh Agarwal, Rishabh Sinha and Prakhar Gupta from Club of Programmers bagged third position in Generex – an Application Development Contest, at Techfest 2016 held at IIT Bombay. The teams of Divyam Goyal, Prateek Thakur, Aman Soni, Om Kumar Sahoo, Nitin Gera and Arpit Chaudhary from Club of Programmers grabbed all three podium places in Quantum Code at the fest.

The Project of Abhishek Singh and Ayush Kumar Goyal on "Arduino and GSM Based Automatic Energy Meter Reading System" won 12th position out of 40+ teams in TECHNICHE'16, the annual technical fest of IIT GHUWATI. In the same fest, the idea of "A better platform for e-Education" by Vaishnav S Menon and Aviral Jethalia secured the 6th position.

Events organized

Suraj Kumar and Chandan Kumar of Aero-Modelling Club conducted a glider-making workshop with the support of Technical and Rural Outreach Club for

students of seven backward districts of Bihar and West Bengal in Kishanganj, Bihar.

The Technical and Rural Outreach Club successfully organized a Road Safety Campaign under the patronage of Ministry of Road Transport and Highways which witnessed massive participation from the students who came up with various sustainable solutions in the form of models to solve the road safety crisis.

The members of Green Club organized a Paper over Plastic Campaign in which more than 2000 paper bags were made by the students which were then distributed to different shops in BHU.

The Club of Economics and Finance organized the biggest social entrepreneurship event – Hult Prize@ BHU in association with MCIE.

Science and Technology Council successfully completed the chapter of the first ever edition of Sci-League – a semester long celebration of the technical prowess of our students. It comprised eight major events, three quizzes, three case studies, two guest talks and thirty workshops spanning the whole odd semester.

A plantation campaign was organised by the Green Club in three hostels of IIT (BHU) on the occasion of the second anniversary of Swachh Bharat Abhiyaan, in association with the Green Cell. The event was attended by our Hon'ble Director, Prof. Rajeev Sangal.

GAMES AND SPORTS COUNCIL

Achievements

In the Taekwondo Nationals at Kolkata, Ritu Mishra got a gold medal while Pawan Kumar, Aryan Chaudhary won silver and Vikrant Singh Mahawar, Gaurav Kumar, Kanmani R won bronze medals.

In National Kabaddi Tournament, the kabaddi team secured the bronze medal. Shiva Nayak was declared the Player of the Tournament.

In the National Taekwondo Championship, Nisha Meena, Kanmani R, Vikrant Singh Mahawar won gold medals, Orish Jindal, Nikhilesh Johari, Naresh Kumar won silver medals while bronze went to Shikhar Kant Sharma, Saumya Soni, Neesha Meena, Saumya Soni and Nikhilesh Johari in different categories.

At the Inter-IIT Sports Meet '16, held at IIT Kanpur, the Volleyball team won the silver medal while the Cricket and Football teams secured the bronze medals. Neha Gupta got a silver medal in the 50m breaststroke aquatics. Anant Kumar Singh got a bronze medal in the javelin throw competition. G Abhishek Ganesh was declared the second best Player of the Tournament.

At the Inter Faculty Meet in BHU, the aquatics team won the gold medal in both the 50m medley and freestyle. Individually, Yugaraj secured a gold and a silver, Neha Gupta got two silver medals, while Vaibhav Dixit got a bronze medal. The Basketball team won gold, the football team won silver, while the Table Tennis team got the bronze medal.

At District Level contest, the Badminton team won Gold in doubles. In the Open Boxing Championship, Vipin Bihari, Sambhav Jain and Vivek Bangar all got bronze medals while Raman Kumar won gold. In weightlifting, Parash Sonawal secured the bronze medal and won the gold medal in powerlifting along with Sonu Meena, while Pawan Kumar secured a bronze medal.

Ashok Meena, Bipin Bihari and Raman Kumar all won bronze medals in their respective weight categories at the Rural Games International Championship, 2016.

The Institute football teams won both gold and silver in the DLW Five-a-Side Football Tournament. They also qualified for the Super league.



EVENTS ORGANISED

Girls' Weekend, an Inter branch Sports tournament was organized for freshers at

both UG and PG level. The tournament witnessed participation of 50 girls in various sports such as badminton, volleyball, chess, carom, table tennis, football and basketball

Intra freshers, a sporting tournament for boys, had 800 participants across disciplines.

Spardha '16, the annual sports and games festival of IIT (BHU) Varanasi, was organized (covered in article)

FILM AND MEDIA COUNCIL

Achievements

Suraj Panigrahi and Rajasvi Vinayak Sharma won 2nd and 3rd place respectively in Design Competition at the Inter-IIT Cultural Meet, 2016.



Events organised

FMC Weekend '16, the annual festival of the Council, was held over 30th September – 2nd October and drew footfall of over 2500 students, with participants from across North India and 5 other IITs. It included 18 creative events in five categories, film festival nights, Creative Guest Talks by eminent personalities from both sides of the border, a professional Travel Photography Workshop, and an NGO Fair.

The council launched FMC TV, a social-media based video channel with weekly web-episodes covering major events of the Institute. Over 19 episodes have been released so far with more than 90,000 overall views.

SPARDHA'16

The institute hosted the 33th edition of Spardha, all-India games and sports festival during October 21-23, 2016. Over time, Spardha has grown to become one of the largest sports extravaganzas of India, where athletic competition is drawn from throughout the country and the level of toil, preparations and perseverance that goes into it inevitably makes it one of the most awaited events for all the participants.

An elaborate programme at the famed Limbdi Corner of the institute, complete with a photo exhibition and other activities, marked the unveiling of the fest. The annual musical night, Saturnalia, organised by the organising team in September, set the mood. A Mashal Handover ceremony was organised on 14th October 2016, which was attended by Olympic bronze medallist Sakshi Malik. It marked the initiation of Spardha '16.

The opening ceremony was held on 21st October. The Chief Guest for this event was Mr. Varun Singh Bhati. He is a successful Paralympian, and the winner of the bronze medal in Rio Olympics 2016. At the young age of 21, he bagged the Gold in 2014 China Open Championship, and has also won laurels for his country at several other international events. Noted female netball player Prachi Tehlan graced the occasion as the Guest of Honour. As former captain of the Indian Netball team, Ms. Tehlan has been a dynamic personality under whose captaincy India won her first medal in the 2010 South Asian Beach Games. Both the dignitaries seem to be living examples of the motto of Spardha - Believe, Struggle, Achieve. The guests were welcomed by a live band performance by the 38 GTC (Gorkha Training Center).

During the event, the ceremonial torch was passed on to the Chief Guest and Guest of Honour. The honourable Director, IIT (BHU) Varanasi, Prof. Rajeev Sangal, addressed the participants. He said that sports guide an individual in dealing with success and failure. It teaches people that rules are definite and cannot be bent or broken. Prachi Tehlan inspired the audience with her views on success. She emphasized that success comes from hard work, opportunities and willpower.

Spardha '16 included 19 games and sporting events in total, along with informal



games and adventure activities. A total of 1300+ participants from all over India participated in Spardha '16. The participants showed unparalleled zeal and enthusiasm in sporting events in the fields



"Spardha '16 was a great success! This year we tried to introduce some new things to the festival, like the Mashal handover ceremony by Ms. Sakshi Malik; a live military band performance; adventure activities like Hot air ballooning, parasailing & zorbing; and video messages from sports legends like Milkha Singh. It was for the first time that 8 IITs came to participate outside of the Inter IIT Sports Meet. I feel honored to be part of a great Sporting event."

Satish Kumar: Convener, Spardha 16



of Athletic, Badminton, Basketball, Boxing, Carrom, Cricket, Football, Handball, Hockey, Kabaddi, Kho-kho, Powerlifting, Weightlifting, Squash, Table Tennis, Tae-Kwon-Do, Tennis, Volleyball and Lan Gaming. The hostel road, near Rajputana Ground, wore a colourful look with floating



umbrellas suspended over the street.

On 23 October, Spardha '16 wrapped up with the closing ceremony that took place in the Gymkhana grounds. The Guests of Honour for the ceremony were Mr. Balbir Singh and Mr. Dhanraj Pillay. Mr. Balbir Singh was a member of three Olympic gold winning Indian hockey teams. In 1957 he became the first Indian to be awarded the Padma Shri in the sports category. Mr. Dhanraj Pillay has been awarded the Rajiv Gandhi Khel Ratna award and the Padma Shri. An ace field hockey player, he was awarded Player of the Tournament in the Champions Trophy held in Germany in 2002. Both the guests of honour addressed the budding sportsmen and encouraged them never to feel let down upon losing. The true spirit of sportsmanship lies in accepting victory and defeat gracefully. Thus, Spardha 2016 ended on a positive note with the hosts promising to present a bigger and even better version of the event next year.

Sport

Kabaddi
Kho Kho
Carrom
Squash
Tae-Kwon-Do
Handball
Athletics
Chess
Tennis
Badminton
Cricket
Table Tennis
Basketball
Volleyball
Football
Hockey
Weightlifting
Powerlifting
Boxing

Winners (Boys)

CIMAGE, Patna
IIT Bombay
Babu Banarasi Das University, Lko.
IIT Kanpur
IIT BHU
IIT BHU
MNNIT Allahabad
NIT Trichy
NIT Trichy
IIT Delhi
IIT BHU
NIT Trichy
IIT BHU
IIT BHU
Shiv Nadar University
IIT Kanpur
IIT Kharagpur
NIT Trichy
IIT BHU

Winners (Girls)

Govt. Women Engineering College, Ajmer
Govt. Women Engineering College, Ajmer
NIT Trichy
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IIT Roorkee
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IIT Roorkee
NIT Trichy
Shiv Nadar University
Shiv Nadar University
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IIIT Delhi
Mody Institute of Technology and Science
IIT Kanpur
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