

## MINUTE TO MINUTE PROGRAMME OF CONVOCATION 2011

- 10.15 A.M. Chief Guest, Dr. Anil Kakodkar arrives at Porch
- 10.17 A.M. Tree plantation by the Chief Guest
- 10.22 A.M. Presentation to Chief Guest about BITS Pilani (Room No. 2147)
- 10.30 A.M. Senate members assemble in the portico in front of Auditorium Gate after wearing robes.
- 10.42 A.M. Wearing of robes by Chief Guest and others
- 10.47 A.M. Introduction of the senate members to the Chief Guest by the Vice-Chancellor and Director
- 10.52 A.M. Recitation of shlokas in Auditorium.
- 10.52 A.M. Academic Procession proceeds, led by Registrar to the Convocation Hall. *{When the procession enters the Convocation Hall, all assembled will stand up and remain standing until the members forming the procession have taken their seats}*
- 10.57 A.M. Invocation
- 11.00 A.M. Registrar, Prof. M.M.S. Anand requests the Vice-Chancellor to declare the convocation open and present the Report on the activities of the Institute. Vice-Chancellor, Prof. B.N. Jain declares the Convocation open and presents the Report on the activities of the Institute.
- 11.15 A.M. Chancellor's Message
- 11.22 A.M. Director's Report by Prof. G. Raghurama, Director Pilani Campus  
Director's Report by Prof. V.S. Rao, Director Hyderabad Campus
- 11.31 A.M. Introduction of the Chief Guest by the Vice-Chancellor
- 11.34 A.M. Convocation address by the Chief Guest
- 11.49 A.M. Presentation of Memento to the Chief Guest by the Vice-Chancellor
- 11.50 A.M. Conferment of Distinguished Alumni Awards of BITS Pilani for the year 2010-2011. Prof. K.E. Raman, Chairman, Alumni Affairs reads the citations and Chief Guest presents the Awards
- 11.59 A.M. Presentation of Degrees by the Vice-Chancellor. Registrar presents the candidates who have qualified for the award of various degrees. *{All the candidates will rise in their seats and keep standing until the citation is read by the Vice-Chancellor}*
- 1.55 P.M. Presentation of Medals by the Chief Guest
- 2.03 P.M. Administration of Oath to the recipients of Degrees by the Gold Medalists. *{Mr. Pothukuchi Raghavendra Pradyumna and Mr. Tripathy Shakti Prasad Srikanth, Gold medalists will lead the Oath. Recipients of Degrees will repeat the oath word by word}*
- 2.06 P.M. Vote of thanks by Prof. R.N. Saha, Deputy Director (Research and Educational Development), Pilani Campus
- 2.08 P.M. Convocation is dissolved by the Vice-Chancellor
- 2.08 P.M. National Anthem
- 2.10 P.M. Academic procession led by Registrar departs in the reverse order in which it entered.  
*{On the procession leaving the Convocation Hall, all assembled will rise in their seats, and remain standing until the members forming the procession have left the hall}*

## MEMBERS OF THE BOARD OF GOVERNORS

Dr. Kumar Mangalam Birla  
*Chancellor*

Smt. Shobhana Bhartia  
*Pro-Chancellor*

Prof. B.N. Jain  
*Vice-Chancellor*

Shri B.K. Birla

Shri C.B. Patodia

Shri Sidharth Birla

Shri D.N. Patodia

Smt. Manjushree Khaitan

Shri Vir Sanghvi

Prof. V.S. Rao

Prof. M.M.S. Anand

Shri Hemant Kumar

*(Registrar), Non-member Secretary*

## SENATE MEMBERS

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Prof. B.N. Jain, Vice-Chancellor

### Vice-Chairman

Prof. G. Raghurama, Director, Pilani Campus

### Secretary

Prof. M.M.S. Anand, Registrar

### Other Members

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Prof. V.S. Rao

Prof. K.E. Raman (Acting)

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Prof. N.V. Muralidhar Rao

Prof. Niti Nipun Sharma (Officiating)

Prof. Ajit Pratap Singh (Officiating)

Prof. M.B. Srinivas

Prof. Niranjana Swain

#### Associate Dean

Prof. Sudeept Mohan

#### Assistant Deans

Dr. Anshuman

Shri K. Venkatasubramanian

#### Professors

Prof. Rahul Banerjee

Prof. Surekha Bhanot

Prof. Anil Kumar Bhat

Prof. Mukund Keshavram Deshmukh

Prof. Navneet Goyal  
 Prof. Chandra Bhan Gupta  
 Prof. Aditya Prasad Koley  
 Prof. Arun V. Kulkarni  
 Prof. Arya Kumar  
 Prof. Rajiv Kumar  
 Prof. L.K. Maheshwari  
 Prof. Janardan Prasad Misra  
 Prof. Rashmi Ranjan Mishra  
 Prof. Narayanamoorthy Muthukrishnan  
 Prof. Rajendra Prasad Pareek

Prof. Bandi Venkata Prasad  
 Prof. Komaragiri Srinivasa Raju  
 Prof. Meenakshi Raman  
 Prof. Kodali Rambabu  
 Prof. Addepalli Ramu  
 Prof. P.N.K. Rao  
 Prof. Srinivasa Prakash Regalla  
 Prof. S.C. Sivasubramanian  
 Prof. Sanjay Kumar Verma  
 Prof. Y. Yoganandam

#### **Associate Professors**

Prof. K.R. Anupama  
 Prof. Debashis Bandhopadhyay  
 Prof. Souri Banerjee  
 Prof. Sunil Bhand  
 Prof. Dibakar Chakraborty  
 Prof. Gaurav Dar  
 Prof. Bharat M. Deshpande  
 Prof. Mridula Goel  
 Prof. Bharat Bhushan Gulyani  
 Prof. Anu Gupta  
 Prof. Chittaranjan Hota  
 Prof. S. Kannan  
 Prof. Pradipkumar Haribhau Keskar  
 Prof. S. Krishnaswamy  
 Prof. D.M. Kulkarni  
 Prof. Kusum Lata

Prof. Arun Maity  
 Prof. N. Rajesh  
 Prof. Sutapa Roy Ramanan  
 Prof. Jagarlamudi Venkateswara Rao  
 Prof. Y.V. Daseswara Rao  
 Prof. Ram Kinkar Roy  
 Prof. B.G. Saha  
 Prof. Subit Kumar Saha  
 Prof. Kuldeep Singh Sangwan  
 Prof. Sangeeta Sharma  
 Prof. Krishna Kumar Singh  
 Prof. D. Sriram  
 Prof. Aradhana Srivastava  
 Prof. P.K. Thiruvikraman  
 Prof. P. Yogeeswari

#### **Heads of Departments**

Dr. Shrikant Yashwant Charde  
 Prof. V.K. Chaubey  
 Dr. Shibasish Chowdhury  
 Prof. Mani Sankar Dasgupta  
 Dr. Umesh Dhyani  
 Prof. Balram Dubey  
 Prof. Arun Kumar Giri

Prof. Subhash Narayan Karbelkar  
 Prof. Dalip Kumar  
 Dr. Pushp Lata  
 Prof. R. Raghunathan  
 Dr. Arvind Kumar Sharma  
 Prof. Shamsheer Bahadur Singh

#### **Co-opted Faculty**

Dr. Abhijit Rameshwar Asati  
 Dr. Geetha B.  
 Dr. Hari Om Bansal

Dr. Bijay Kumar Rout  
 Dr. P. Srinivasan

#### **Librarian**

Dr. Ishwara Bhat M.

#### **Chief Warden**

Dr. Sanjiv Kumar Choudhary

#### **Placement Officer**

Prof. Mani Sankar Dasgupta

#### **Student Members**

Shri Nadeem Ahmad  
 Ms. Manasa G

Shri Ankit Mishra  
 Shri Milish Dutt Sharma

## INFORMATION ABOUT THE INSTITUTE

The Birla Institute of Technology and Science (BITS), Pilani is an all-India Institution declared as deemed to be university established under Section 3 of the UGC act. It is privately supported, fully residential and admits both male and female students. The primary objectives of the Institute are "to provide for and otherwise promote education and research in the fields of Technology, Science, Humanities, Industry, Business, Public Administration and to collate and disseminate in such fields effective ideas, methods, techniques and information as are likely to promote the material and industrial welfare of India" and to "train young men and women able and eager to create and put into action such ideas, methods, techniques and information".

The Institute was initially registered as a Society under the Rajasthan Societies Registration Act of 1958 on the 13th May, 1964. Subsequently, by notification published in the Gazette of India dated the 27th June, 1964, the Ministry of Education, Government of India, declared that the Institute being an institution for higher education shall be "deemed to be a University". The Institute started functioning with effect from 1st July, 1964 with late Shri G.D. Birla as its Founder Chairman.

The Institute started as a small "Pathshala" in Pilani way back in the year 1901 by Seth Shri Narainji Birla with one teacher for educating his grandsons, late Shri G.D. Birla and late Shri R.D. Birla. Pilani was then a small isolated desert village in Rajasthan. The Pathshala evolved slowly and steadily into a High School in 1925 and became an Intermediate College in 1929. The Birla Education Trust was founded in the same year. The Intermediate College developed into a Degree College in 1943. In 1947, this college was raised to postgraduate level. In 1950, Pharmacy courses were started in this college, and in 1952, it was bifurcated into College of Arts and the College of Science, Commerce and Pharmacy.

During World War II, the Government of India established a Technical Training Centre at Pilani for the supply of technicians for Defence Services and industry. In 1946, late Shri G.D. Birla decided to convert it into an engineering college with degree programmes in Electrical and Mechanical Engineering. Master's programme in Electronics was started in 1955. B.E. programmes in Civil Engineering and Chemical Engineering were started later. In 1964 with the inception of the Birla Institute of Technology and Science, the colleges, viz., Birla College of Science, Commerce and Pharmacy, Birla College of Arts and Birla College of Engineering situated at Pilani, as also all properties, movable and immovable, together with educational facilities, hostels, staff quarters, playgrounds, etc., became part of the Institute and all these properties were vested in it. During the early years of its inception, i.e., 1964 to 1970, the Institute with the support of Ford Foundation Grant had the advantage of having collaboration with Massachusetts Institute of Technology (MIT), USA. It adopted the semester system, modular structure of courses, continuous and internal evaluation, letter grading, etc. It also created institutionalized linkages with the industries. Over a period of time, the Institute also introduced several flexibilities in its educational programmes.

Dr. K.K. Birla who took over as the Chairman of BITS in 1983 was deeply involved and closely associated with his visionary father in running both the earlier Birla Colleges and the current institute BITS, since its inception. With his spirited involvement in all the activities of the Institute, he was able to see the vision of his father Late Shri G.D. Birla unfolding. Taking over the responsibility of running the institute, Dr. K.K Birla who became the Chancellor in 2003 realized the need for greater number of promising graduates in the field of science and technology in shaping up the nation's development. Hence he initiated an increase in the number of students at Pilani campus during 1999 which gradually carried the total strength from 2500 to 4000. Under his patronage, BITS started expanding by establishing three campuses, one in Dubai in the year 2000, in Goa in the year 2004 and in Hyderabad in the year 2008.

Consequent upon the sad demise of Dr. K.K. Birla on 30 August 2008, Dr. Kumar Mangalam Birla was elected as the Chancellor and Smt. Shobhana Bhartia was nominated as the Pro-Chancellor of the Institute. Under the leadership of young and dynamic Chancellor, BITS is taking steps to scale greater heights.

In the year 2000, BITS was accredited by NAAC with the highest possible rank in University accreditation. In 2008-2009, the NAAC peer team visited BITS campuses at Pilani, Goa and Dubai and BITS has been reaccredited with CGPA 3.71 on four point scale at the highest 'A' grade.

### **Vision 2020: Mission 2012 – A New Strategic Plan for BITS**

The Institute has embarked on a journey to become one of the leading universities in the world by the year 2020. Towards this goal, a task force was constituted to prepare the Vision 2020 documents and the draft 'Vision 2020' was released in February 2009. Following this, a number of steps were initiated to action the identified goals.

The Goals of Vision 2020 were shared with stakeholders through Town hall meetings, Workshops etc. and the same were refined based on the inputs and discussions. Towards the Vision 2020 goals, a Mission 2012 project has been initiated for specific actions to be completed by 2012. The project has been given a logo: Leadership through Excellence. Six thrust areas – Academic Programs and Pedagogy, People, Research & Consultancy, Campus Life, Infrastructure & Facilities and University Administration – have been identified for special focus.

### **BITS, Pilani – Pilani Campus**

BITS, Pilani – Pilani Campus is located in the Vidya Vihar campus adjacent to Pilani town in Jhunjhunu district, in Rajasthan. Pilani is the home town of the Birla family and has a population of about 50,000. It is about 200 km west of Delhi and about 220 km north of Jaipur. The Institute buildings, hostels and residential quarters for staff with neatly laid out roads, lawns and gardens constitute the BITS Campus of about 240 acres.

Presently, there are 3561 first degree students, 628 higher degree students and 390 Ph.D. students enrolled in the different degree programmes in the campus.

### **BITS, Pilani – Hyderabad Campus**

BITS, Pilani has established its fourth Campus in the city of Hyderabad in 200 acres area in Jawahar Nagar, Shameerpet Mandal, RR District in 2008. The campus is located on the Karimnagar highway and is about 25 kms from Secunderabad railway station; 40 kms from Hyderabad (Nampally) railway station; and 70 kms from Hyderabad Rajiv Gandhi International Airport.

Presently, there are 2299 first degree students and 158 higher degree students enrolled in the campus in different degree programmes.

## CHANCELLOR'S ADDRESS



*Dr. Kumar Mangalam Birla*

Dr. Anil Kakodkar, Vice Chancellor Dr. Jain, the Board of Governors, Directors of our Campus, Members of the Senate, Distinguished Alumnus Award winners, Faculty, Staff, Students, Ladies and Gentlemen.

Good morning!

I extend a very warm welcome to all of you to our Convocation 2011.

It is a special honour for us at BITS to have Dr. Anil Kakodkar as our Chief Guest on this memorable occasion. Even as Dr. Kakodkar needs no introduction in India or anywhere in the world, I must briefly speak about him. Dr. Kakodkar is one of the most eminent nuclear scientists in the world. He was the erstwhile Chairman of the Atomic Energy Commission of India and the Secretary to the Government of India's Department of Atomic Energy. During his eventful tenure, he played a vital role in asserting the sovereignty of India in conducting nuclear tests and positioning India on the world map of nuclear science. He is wedded to the idea of making India fully self-reliant in energy and to the concept of diverting nuclear technology for peaceful and productive use for generating energy. For all that he has done for the country and for its people in the field of science and technology, he was awarded the Padma Vibhushan – the second highest civilian honour.

At a personal level, I feel particularly proud of having Dr. Kakodkar with us. Both his parents Mrs. Kamala Kakodkar and Mr. P. Kakodkar, I understand, had very close linkages with Gandhiji and the freedom movement. As you know, my great grandfather, Shri G. D. Birla was in the same league and a close confidant of the Mahatma. In a way Dr. Kakodkar's presence is a fitting tribute to Shri G. D. Birla. For both of them, nothing has been more important than our country.

Roll back to the early years of an independent India, when our Founder, Mr. G. D. Birla, envisioned an institution that would in his words – and I quote

“...Train young men and women, able and eager to create and put into action, such ideas, methods, techniques and information to promote the material and industrial welfare of India.”  
Unquote.

He added, and I quote:

“We want to teach real science, whether it is engineering, chemistry, humanities, physics, or any other branch. We want to develop a scientific approach in Pilani, which means there would be no dogma.” Unquote

At the core, this vision remains true even today. And therein lies one of the greatest strengths of BITS. A holistic vision that has been our guiding force through these years and continues to be our compass.

On the eve of its Golden Jubilee celebrations, in the next decade, going forward, BITS will emphasize and give additional focus to research and innovation. Alongside it will continue to enhance its undergraduate and work integrated learning programmes. We believe this will add to the sheen of BITS and take it to a higher level.

Two years ago we launched a major renewal project, “Vision 2020, Mission 2012” . Our aim was to identify and implement measures that will establish BITS Pilani as one of India's top three research-led universities by 2015, and to be counted amongst the leading 25 technical universities in Asia by 2020. I am happy to share with you the many steps that have been taken as part of this exercise, and are well under implementation.

- First, we benchmarked our curricula in detail against those of the best universities in India and overseas. Consequently, the curricula at BITS has been revamped, redesigned and implemented.
- Second, recognizing the criticality of research and its significance in academics and for the nation, BITS Pilani has embarked upon an aggressive programme to expand its postgraduate and Ph.D. research programmes. We have begun offering scholars teaching and research assistantships from our own source of funds. The result has been indeed rewarding. This year itself, we have close to doubled the enrollment of PhD scholars.
- Third, while BITS embarks on an aggressive plan to recruit research-focused faculty, it is encouraging, facilitating, and incentivizing its current faculty to seek government and industry sponsored research projects. Sponsored research grants are already seeing an appreciable increase.
- Fourth, BITS Pilani has undertaken the implementation of a full scope ERP that will address the complete student lifecycle from admissions to graduation.
- Fifth, we are finalizing plans to invest considerably in contemporarising our infrastructure: classrooms, laboratories, our ICT backbone, and housing for our faculty and students to make them at par with international standards. This project will go on stream in the ensuing year.
- Finally, recognizing that the engagement levels of our faculty and students ultimately drive our reputation, we have completed a well-structured engagement survey by a globally reputed firm. The survey findings indicated the areas both on the academic and co-curricular front which needed to be spruced up. With this gainful insight, we have actioned improvements identified by our faculty, staff, and students.

We believe these forward steps will prepare us to effectively meet with the challenges of the next decade, although the road ahead is long and demanding.

The initiatives of the last five decades, as well as the ones I have outlined, serve just one purpose. And that is to enable you, the young men and women of our country to carry forth the legacy of BITS and be inspired as you stand on the cusp of the next phase in your journey of life.

Elsewhere in the world, what we call Convocation is referred to as Commencement. Perhaps this is apt. Today, you commence a new phase in your professional lives: when your wings will take you to new destinations without the comfort, shelter and caring of the homes you were born in, or of the institutions and campuses that nurtured you. It is my fervent hope that BITS has prepared you well. Not just to commence your professional lives with competence, capability, and confidence, but as men and women that will shape our society and country in the coming decades.

Bring passion to your endeavours, bring the fire in you and the sparkle in your eyes to every task you set yourself to. Skills and capabilities you have – there is no doubt about this. The world was shaped by men and women whose restlessness with the status quo drove them to do things differently, to do them well, and do them with a deep concern for the wellbeing of their fellowmen. I am confident so will you. The opportunities India and the world afford today are limitless. Grab them and shape your lives and shape the world. Just as BITS Pilani's reputation has been shaped by the quality of the men and women who walked through its portals, YOU will shape BITS's reputation in the coming years.

Today is your day. I congratulate each one of you who will graduate from BITS. I wish you the very best in your lives, both personal and professional. Use your knowledge and experience to serve the society that has nurtured you and your talent. And remain connected with your alma mater and visit us from time to time. We will have much to learn from your own journeys. And we will share that learning with future generations. Congratulations, once again.

Dr. Kakodkar, thank you once again for this honour. Our faculty, staff and students eagerly await your convocation address.



## VICE CHANCELLOR'S REPORT



*Prof. B.N. Jain*

Chief Guest for the occasion, Dr. Anil Kakodkar, Members of the Board of Governors, Directors of our campuses, Prof. Rao, Prof. Raghurama, Prof. Mittal and Prof. Raman, Members of the Senate, Distinguished Alumnus Award winners, Faculty and Staff of Pilani campus, Dear students who are to receive their degree certificates and medals and members of your families, Ladies and Gentlemen: a very Good Morning to all of you.

It is my pleasant duty to present to you the Convocation Report on this solemn and joyous occasion, BITS Pilani Convocation 2011 at Pilani Campus. While students who graduated from our K. K. Birla Goa campus received their degrees at the first ever convocation held in Goa last week, today's convocation in Pilani is being held after a gap of forty long years.

I welcome you all to this very happy occasion when students from Pilani and Hyderabad campuses who have graduated this year will receive their degree certificates and medals.

Today, we are honored to have Dr. Anil Kakodkar as the Chief Guest for Convocation 2011 at Pilani campus. On behalf of all my colleagues on this campus, and all students graduating today, I would like to thank you, Dr. Kakodkar, for graciously and readily accepting our invitation to be the Chief Guest for the day's proceedings as also to address the faculty and students of BITS.

Very briefly, Dr. Kakodkar is a former Chairperson of India's Atomic Energy Commission and Secretary to Government of India, Department of Atomic Energy. Dr. Kakodkar is best known for his work on augmenting the use of Thorium in our nuclear energy programme and for the design of the advanced Heavy Water reactors. He is credited with developing the roadmap that aims to leverage India's vast Thorium reserves to produce electrical energy to meet India's growing demand for energy. For these and many other contributions, Government of India has bestowed upon him the Padma Shri Award in 1998, Padma Bhushan Award in 1999, and Padma Vibhushan Award in 2009. He has received numerous other awards, including honorary doctorate from several universities.

I will now present a report on the four campuses of BITS Pilani, taken together. The report highlights its activities, while bringing out its achievements, its future plans, and the challenges BITS faces going forward. Prof. Raghurama, Director of this Pilani campus, and Prof. Rao, Director of our Hyderabad campus, will each present a report that is specific to their campuses.

As you are aware, BITS Pilani was declared "deemed to be university" by UGC in 1964. It offers undergraduate, post-graduate and PhD programmes in science, engineering, pharmacy, management and social sciences to over 10,400 students who reside on its four campuses in Pilani, Goa, Hyderabad and Dubai. While today students in the undergraduate programmes account for nearly 89% of the entire student body, we expect the sum-total share of post-graduate and PhD students to grow from the current 11% to 16% by the year 2015, and to 23% by year 2020. These numbers reveal, partly, our recent emphasis on aggressively pursuing a research agenda that aims to grow the number of PhD students from the current figure of 500 to over 1,000 by 2015, and to nearly 1,800 PhD students by year 2020. I will speak more on this topic later in this presentation.

I am happy to report that BITS Pilani was, in 2005, the first institution in India to conduct BITSAT, an online examination for admission to its undergraduate programmes. But, more importantly, it has conducted BITSAT every year for seven years without a single student being deprived the opportunity to take the exam as scheduled. Last summer, over 97,000 students took the exam at 26 centers, including one in Dubai, resulting in over 99% seats being filled up at the end of 4 iterations in a short span of 4 weeks. Such is our commitment to using technology and making our admissions process fair, transparent, and efficient. Most other institutions in the country are now waking up to the potential use of IT in admissions.

You will be pleased to note that during the academic year 2010-11, over 2,100 students have graduated from BITS having completed the graduation requirements in either of the 19 undergraduate or 21 post-graduate programmes offered by our four campuses. Of these 20% or so will graduate with two degrees under the Dual-degree programme, an option that only BITS provides to its students. An additional 31 students have graduated this year with a PhD. In the coming years, we expect these numbers to grow significantly. By year 2015, the number of students completing an undergraduate or post-graduate degree is expected to surpass 3,000, and those graduating with a PhD should be close to 100. Needless to say, we expect to see a significant increase in number of students graduating in the years to follow.

While today the number of distinct post-graduate programmes we run on our campuses is 21, we are planning to start in the coming years several industry-focused post-graduate programmes for students who already have a BSc or BA in physical or social sciences. Information Security, Actuarial Science, Public Policy, Bio-informatics are just a few areas that we believe will have huge potential. We remain convinced that the industry will not simply recruit those who will graduate from these programmes, but will indeed part fund these programmes.

Thus far I have reported on academic programmes that we run for full-time students who reside on our four campuses. You are possibly aware of BITS' pioneering role in running formal academic programmes for professionals working in the industry. Many of these are in partnership with industrial organizations. Today, over 16,000 industry professionals are admitted into one of 24 programmes that lead to an undergraduate or post-graduate degree. Clearly, we can never overemphasize the significance of such programmes, given that they allow many a second chance to obtain a formal degree, or to others an opportunity to upgrade their skills in keeping with a fast changing technology and economic environment in the world.

It is not for no reason that BITS is invariably ranked amongst the top 10 publicly or privately funded engineering institutions in India. But that is mainly on account of its emphasis on excellence in teaching, a 6-month internship through the Practice School programme, as also upon soft-skill development. Clearly, we are not content with that. Going forward, we aspire to be listed as a top-class research-led university in Asia and in the world, and not simply in India. And to realize that

dream we have begun to define and implement a number of projects under the umbrella project called "Vision 2020, Mission 2012" that will enhance our capability and capacity to run a world-class university whose faculty and students excel in both teaching or learning and in research or innovation. While our Chancellor, Dr. Kumar Mangalam Birla, will outline some of those initiatives in his address, I will focus on two challenges that we propose to address head-on. These relate to (a) induction and retention of research-focused faculty, and (b) creation of lab infrastructure to support research or innovation.

Those of us who have tracked growth of higher technical education have seen an explosive growth in the number of colleges and universities that offer undergraduate and post-graduate programmes in science or engineering. This is to be expected, given that a growing number of young people seek to move ahead in their lives through higher technical education. We have also witnessed a huge decline in standards of education to the point that a majority of graduates in science or engineering are unemployable. To a large extent, the prime reason is lack of availability of motivated, talented young men and women who take up teaching and research as a career in India. BITS Pilani has therefore decided to accord the highest priority to recruiting the best available talent from anywhere in the world, as also to develop faculty by offering to them the opportunity to complete their PhD while they teach a course or two each semester. Today, across its four campuses, BITS has over 650 faculty members, resulting in a student-to-faculty ratio of 16 students to one faculty. In the coming years, we expect to hire faculty more aggressively so as to achieve a ratio of 12:1 by year 2020, a ratio that will leave enough time to faculty to engage in meaningful research or innovation.

Funding to create lab infrastructure that will support research by a growing community of faculty and their PhD students is the other major challenge we face. It is anybody's guess as to "what will it take to create the necessary lab infrastructure to support a 1,800 strong PhD student body". This is so since it significantly depends upon whether research is in disciplines such as Humanities or Mathematics or in Science or Engineering, and upon whether research is experimental or one based on computer simulation. Given the disciplines that BITS has emphasized over the years, it would be reasonable to assume and plan for an investment of at least Rs. 200 crores over the next few years. To fund this expansion in research capacity, we will look to industry and to government agencies to help fund this, but on a competitive basis in the form of sponsored R&D projects. Such projects will also help pay for research assistantships for scholars and for supplies, etc. I am happy to report that in the last financial year 2010-11 BITS Pilani has successfully received approval from various sources for R&D projects worth Rs. 9 crores. This significant increase over the previous year gives us the confidence to target sponsored R&D worth Rs. 100 crores in the year 2020-21.

The above challenge of sourcing funds to expand capacity is compounded by the fact that we are an independent university that does not receive budgetary support from any government, a business, or a family. BITS must rely completely upon itself to generate resources from tuition fees paid by on-campus students and from off-campus working professionals in industry. Having said that, I must share with you that the tuition fee at BITS Pilani is the most competitive amongst all its peers. And even so, BITS ensures that 24% of all undergraduate students will receive some form of tuition waiver, and 50% of all post-graduate and PhD students will receive a stipend in addition to a partial fee waiver. This is the challenge before any independent university that wishes to pursue an agenda that is driven by research. We look forward to MHRD, UGC and other organizations in the government to find ways to empower universities such as ours to expand their research programme.

Before I close, I would like my faculty and staff to join me in congratulating all our students who will be graduating today from our campuses in Pilani and Hyderabad. To all those graduating today, I certainly hope you were able to get the most of what BITS had to offer, while having a wonderful time on the campus. I hope you will use your knowledge and experience fruitfully to serve the people of this country and those elsewhere. I wish you all the very best in your lives, both professional and personal. And, as you move forward in your life, do reflect upon the many contributions that your family, your teachers, and your community have made to your lives. Do remain connected with your alma mater and visit us whenever you yearn to re-live some of your fine moments at BITS. Congratulations, once again.

Dr. Kakodkar, thank you once again for readily agreeing to be with us at this very joyous moment. I am certain my faculty, staff and students are eagerly waiting to hear your convocation address.

Last, but not the least, I want to thank my faculty and staff at our Pilani and Hyderabad campuses, and elsewhere, for their commitment to excel in every aspect of teaching and research, both inside and outside the classroom. Their continued effort helps BITS Pilani retain its position as one of top ten destinations in India for students, faculty and recruiters.

Thank you all for your attention.

Bijendra Nath Jain, Professor & Vice Chancellor, BITS Pilani

## DIRECTOR'S REPORT BY THE DIRECTOR, PILANI CAMPUS



*Prof. G. Raghurama*

Distinguished Chief Guest Dr Anil Khakodkar, Vice chancellor Prof BN Jain, Members of Board of Governors and the Senate, BITS Alumni who are present here, especially those who are to receive the distinguished alumnus awards, Directors of Goa, Hyderabad and Dubai campuses, my faculty colleagues and their spouses, staff of Pilani campus, students, special invitees, members of the press, ladies and gentlemen: This is a special day in the life of BITS. It was on 9<sup>th</sup> February 1971, when the last convocation was held in Pilani. That day, in this same august hall, 616 students of BITS were conferred degrees. After a gap of 40 years, today, we are going to confer degrees to 1087 students in a formal convocation ceremony. I welcome you all on this special occasion. Thank you for being here.

A special greeting to all the graduates who are to receive the degrees today. Warm welcome to each one of you. The day belongs to you. I welcome all the parents who have accompanied these students. This is a joyous and proud moment for you and all of us here.

As you are aware, BITS is now a multi-campus university. The Pilani campus is the oldest and the mother campus. Spread over an area of about 240 acres, the campus has 4579 students on rolls today, with about 300 faculty and 600 staff. We offer 39 degree programmes at the first degree and higher degree levels, apart from the doctoral programme.

Shri GD Birla, our founding chairman, in the inaugural address on 19<sup>th</sup> August 1964 (when BITS Pilani was formally established as a university) said, "... we shall march towards the goal with the single purpose that we have to make Pilani the best Institution, and let us aspire that Pilani will produce the future leadership of the country." A vision that drove us to give our best. Over the years, the Institution was nurtured by Dr KK Birla as the next chairman, and by Dr Lakshmi Narayanan, Dr CR Mitra, Dr S Venkateswaran, and Dr LK Maheshwari at the helm of affairs as Directors and Vice Chancellors. Now, under the guidance of Dr Kumar Mangalam Birla as Chancellor, we are determined to scale greater heights.

I take pleasure in presenting before you a brief summary of the achievements of faculty and students in Pilani campus, focusing more on the last one year.

Vice-chancellor Prof BN Jain, in his addresses highlighted the importance of research to BITS. While we have initiated a number of steps to enhance our research output, I am happy to inform you that we have already started seeing the results of such efforts. I will briefly touch upon a few of these achievements.

In the Biosciences department, Dr. Sandhya Mehrotra, Dr. Sanjeev Kumar and Prof S. K. Verma, have received DST Project grants totaling Rs. 93 lakhs during the last one year. Prof AK Das of the department is the Principal Investigator in a multi-Institutional project with financial support from DBT for Rs 1.88 crore on a project of a system biology approach towards understanding severe malaria. Dr Jitendra Panwar of the department was selected for INSA fellowship for short term foreign university visit. Dr. Rajesh Mehrotra became a visiting scientist of Louisiana State University, USA and Dr. Lalita Gupta visited National Institutes of Health, USA (NIAID, NIH) as a visiting scientist during June to July 2011.

Three faculty members from Chemistry department (Dr. Dalip Kumar, Dr. Anil Kumar, Dr. Prashant U. Manohar) have obtained from CSIR, UGC and DST sponsored research grants totaling Rs. 71 Lakhs during the last year. Dr Prashant U. Manohar visited University of Southern California, USA, for a research collaboration with Prof Anna I Krylov. Dr Anil Kumar visited University of Rhode Island, Kingston, USA, for research collaboration with Prof K Parang.

Prof Navneet Goyal and Dr Poonam Goyal of Computer Science department have been selected for the IBM Scalable data Analytics for a smarter Planet Innovation Award carrying US \$ 15000 as cash prize.

The chemical engineering department was recently awarded Rs. 68 Lakhs from UGC under its DRS-SAP scheme. Dr. Smita Raghuvanshi and Dr. Sushil Kumar of Chemical engineering department have received support from DST under the SERC Fast Track for Young Scientists in Engineering Sciences, each with a grant of about Rs. 20 Lakhs.

The Pharmacy department of Pilani campus is one of the oldest in the country and its graduates hold high positions in the Pharma industry. During the last one year, the department has obtained three new industry sponsored projects from Lubrizol, BASF and Torrent. The department has received a total grant of about Rs. 1 crore in the last one year, out of which Rs 35 lakhs is through industry sponsored projects and the remaining 65 Lakhs from Government Sponsored Projects from DBT, DST, and UGC. Prof RN Saha and his team from the department developed and transferred a new technology on gastro-retentive drug delivery system to Ipca Labs, Mumbai during the year. The Pharmacy department has also received an international collaborative project namely 'Indo-Canada joint research consortium on the development of new class of anti-malarial agents' where Prof R Mahesh is the joint investigator from BITS Pilani.

BITS has recently received a sanction for Rs. 60 lakhs from DST for a project on Rain water harvesting. This project is being carried out by Prof Rajiv Gupta of Civil engineering department, in collaboration with one of our alumnus Mr BP Agarwal of Sustainable innovations. The Civil Engineering Department organized UKIERI Concrete Seminar in association with eight collaborative research institutions from India and UK during March 8-10, 2011 in Delhi.

Prof NN Sharma of mechanical engineering department organized a NPMASS MEMS Design Center Summer School during June 20 June - July 2 2011. The department conducted an International Conference on "Sustainable Manufacturing Issues, Trends and Practices" in November, 2010.

A Programmable System on Chip ( PSoC) lab has been established with the support of Cypress Semiconductor in the EEE department during the last year. The department conducted a Indo-Taiwan workshop on "Nano, Microelectronics & Embedded Systems" during 24-25 September 2010.

The Physics Department, during the year, has received Rs 58 lakhs from DST under the FIST programme. The department organized a DST-SERC School on Theoretical Techniques in Atomic

and Molecular Collision Physics during 10-28 January 2011. The department hosted the DAE symposium on Nuclear Physics in December 2010, along with BARC, Mumbai.

The mathematics department has got financial support from UGC to the tune of Rs. 71.5 lakhs under DRS-SAP and infrastructure development scheme.

Soft-skills and liberal arts have an important role to play in the overall development of students in a science and technology curriculum. At this stage, I would like to quote our founding Chairman Shri GD Birla, who on the occasion of the first convocation of BITS on 6<sup>th</sup> February 1965 said "... becoming a mere engineer or a mere scientist would not do. Even a mere economist won't do. He will have to be something of everything. He will have to be a jack of all trades and master of one. ... The engineer will have to know something of Philosophy, something of geography, something of economics and something of languages, and of what we call humanities". The faculty from the Languages and Humanities departments provide the much needed support to students in terms of humanities courses, and other skill-development courses. BITS graduates are now recognized by employers for their all round development.

BITS encourages its faculty members to spend some time in industrial set ups to understand the real world problems and look for solutions as part of their research efforts. The Aditya Birla group of companies came forward to host our faculty during this summer and six of our faculty (Prof SK Verma, Prof MS Dasgupta, Dr Pratik Sheth, Dr Suresh Gupta, Dr Manoj Soni and Dr Subhajit Majumadar) from Pilani campus spent a few weeks in the Aditya Birla companies in Indonesia, Thailand and Gujarat.

During the academic year, the faculty members of Pilani campus published 182 papers in international journals, and 34 in national journals. In all, the faculty members participated in 71 conferences abroad and 170 conferences in India during the year.

This year, we had more than 97000 aspirants seeking admission to BITS. The BITSAT online test, which has now been successfully conducted for the last 7 years without a single failure, is an achievement by itself. I am also happy to inform that 22 Toppers from central and state 12<sup>th</sup> examination boards have joined BITS this year.

Due to our efforts initiated to attract bright minds for PhD programmes at BITS, I am glad to inform that we have already seen a jump in the number of students admitted to on-campus PhD programme in BITS. This year, we have admitted 98 students which is almost double of the number admitted last year.

BITS has always supported the entrepreneurial spirit among its students. A Center for Entrepreneurial Leadership (CEL) was established in 2003. BITS, along with Wadhvani Foundation and 4 more reputed institutes co-founded the National Entrepreneurship Network (NEN). The Technology Business Incubation Center (TBI) came into existence in 2004 to accelerate the growth of entrepreneurial ventures in BITS, Pilani with a support of DST and Alumni. I am happy to report that in 2011, BITS Pilani has been sanctioned grant of Rs 1 crore by Technology Development Board (TDB), Govt. of India for providing seed assistance to incubates. Till date, 12 incubates have graduated from Technology Business Incubator and have started their own ventures.

A course on 'New Venture Creation' that focuses on creating technology based start-ups was introduced with the active involvement of Alumni in 2009. During the first semester 2011-12, 32 participants in 10 teams with concrete ideas to work upon have been selected. This course has a unique pedagogy involving guest lectures from entrepreneurs, investors and academicians and



mentoring from experienced professionals. Successful teams are extended seed funding support for incubation.

The BITS 1975 Trust (a trust formed by BITS alumnus of 1975 batch) has sanctioned first grant of Rs 10 Lakh to *Phyzok* - a company by our student Mr Lohit Sahu being incubated for providing comprehensive educational solutions which can complement the existing framework of school education by introducing technological innovations to transform the way education is delivered.

The Institute has signed a number of MOUs with foreign Institutes and Indian organisations to encourage student & faculty exchange, research collaborations, and Human resource development. On 11<sup>th</sup> February 2011, BITS Pilani has signed a MOU with the Indian Army for academic and research cooperation. Under this MOU, we have admitted 5 Army officers to the Masters Programmes of BITS in July 2011. The cooperation envisages the formation of a center of excellence in Safety and Security Solutions.

The Institute attaches great importance to the University-Industry Linkages and gives mutually reinforcing thrust to it through various avenues like Practice School, Work Integrated learning programmes, Technology Innovation center etc. During 2010, a total of 3694 students went through the Practice School programme in 369 locations, including a few stations abroad. Under the Work Integrated Learning programmes offered by BITS, more than 16000 working professionals are registered for different degree programmes of BITS.

BITS Embryo, a unique and innovative mode of complementing on-campus education, provides a platform for Alumni and friends of BITS to deliver online lectures to students in the campus. Since its inception in 2006, a large number of experts have participated in this project.

BITS Pilani is one of the 7 Institutions identified by the Ministry of External Affairs, Govt of India, to offer tele-education to African Countries under the pan-African e-Network project. BITS faculty offered three courses to 60 students from Cameroon under this project in 2010-11.

The Pilani Vidya Vihar campus was formally inaugurated in the year 1951. The infrastructure of the campus requires upgradation to be in tune with our desire to be counted among the best in the world. I am happy to inform that we have put a project in place towards this and during the next two to three years, we will modernize this campus, keeping the aesthetics of the heritage buildings and bringing in the modern. The master plan is under preparation and work will start soon. I thank our chancellor Dr Kumar Mangalam Birla for all his support for this project.

I now present before you a brief account of some of the achievement of our students.

Mr. BedantaKrishna Bhuyan of B.E.(Hons.) Chemical Engg presented a paper entitled "Inversed Fluidization & Development of an Inverse Fluidized Catalytic Cracker" in the International Conference on Applied Chemistry & Chemical Engineering (ICACCE-2010), Tokyo, Japan, May 26 - 28, 2010. Another student of the same department, Ms. Amita Ummadisingu presented a paper entitled "Experimental Studies on Gasification of Pine Wood Shavings in a Downdraft Biomass Gasifier" in the AIChE Annual Meeting 2010, Salt lake city, USA, November 7 - 12, 2010.

Four students (Miss Ankita Sarada, Mr. Shuja Shabir, Mr Vaibhav Grewal, and Mr Prakash Singh) have been awarded the prestigious Aditya Birla scholarships for the year 2010.

A team of students from the mechanical engineering department secured 10<sup>th</sup> place (out of 180 teams across India) in a competition organised by the Society of Automotive Engineers (SAE), designing and building an all terrain Vehicle.



Students working in the Center of Robotics and Intelligent Systems at Pilani have designed Humanoids which have received international accolades. While the first version Acyut-1 received several laurels at Robogames 2008 held at San-Francisco, USA, the Acyut-3 won a world record in weight lifting in 2010. The Humanoid team won 4 medals in Robogames, California in April 2010. The Humanoid Acyut-4 performed a feat of lifting a weight of 40CDs together, creating once again a world record.

BITS students excel not only in academics, but are sensitive to social causes. In the Pilani campus, students actively participate in such activities through NIRMAAN, NSS and other forums.

The BITS education system believes that learning is not limited to classroom. Students in the campus get a number of opportunities to learn and showcase their talents through cultural and sports activities. The annual events such as Oasis, APOGEE, BOSM, Interface etc., attract participation from a large number of students from the campus and also from other Institutions in India.

Today, in this convocation, 799 students of Pilani campus will receive their degrees at the first degree level, i.e, BE(Hons), BPharm(Hons), MSc(Hons), MSc(Tech) degrees. 266 will receive degrees at the higher degree level, i.e., ME, MPharm, MBA and 31 will receive PhD degrees.

This batch of students who are to receive their degrees today is special in many respects. Each one of them is an achiever and I can go on speaking about their individual attainments. In the next few minutes, I would like to mention a few of them, if only to highlight that education in BITS is not just classroom teaching.

Today, P Raghavendra Pradyumna, Tripathy Shakti Prasad Srikanth will receive the Gold medals, Mr Anupjyoti Deka and Ms Surabhi Garg will receive the silver medals and Mr Heemanshu Suri receives bronze medal for their excellent performance in academics. Heartiest congratulations to them.

Ms. Namrata Raman was the topper of CBSE when she joined BITS. In BITS, She was selected for the prestigious Aditya Birla Scholarship. She is an accomplished dancer and she has enthralled us by her dance performances several times on this very stage. Now, she is the topper of BE(Hons) Chemical engineering, and has got admission offers from Stanford and University of Winscon.

Mr Rohit Antonio de Lima Fernandes of EEE department was a music club member, a violinist, and Basketball team captain in BITS. He did his Summer internship in Canada under the Mitacs programme of Canada; did his Practice School –II at Cypress Semiconductors in California. He was selected for the prestigious Goldman Sachs Leader scholarship when he was in his second year at BITS. He is now selected as the best outgoing student of EEE for his overall academic and extra-curricular performance.

Ms. Neeti Bhandodkar of M.Sc.(Hons.) Information Systems did her internship at UN headquarters New York; received fellowship of Starting Bloc, Boston, did her PS-II at Insead, Singapore, was a member of English drama club, editor of English press club. She has a CGPA of 8.6

Ms. Srivarsha Rajashekhar of MSc(Hons.) Bio Sciences did her thesis at Max Planck institute of molecular cell biology and genetics, Dresden, Germany and got selected for Lindau Noble laureate meet in Germany. She was a member of basket ball team, coordinator of Biology association. Has CGPA more than 9.0

The above is only to highlight that in BITS, the academics and other achievements are not exclusive of each other.

I mention a few more achievements by this batch of students. Mr Aniket Updhyaya of BE (Hons) Civil was the topper of GATE in Civil Engg in 2011. Mr Sonam Samat and Saurav Neel Patyal of BE (Hons) Mechanical were selected to attend the Clinton Global Initiative University meeting, University of Miami in April 2010. Mr Raghav Mimani of BE (Hons) Chemical engg was awarded the green globe foundation award in February 2010. Mr Dinakar Nandwana of BE (Hons) mechanical was selected for DAAD internship scholarship in 2009-10.

Mr. Vasanth Kumar, a PhD student in Pharmacy deptt participated in a technology awareness programme in Germany in July 2011 on invitation by an international Pharmaceutical company. He was one among the 6 selected across the globe.

As I said before, each one of you is an achiever. It is impossible for me to mention all of your achievements. I applaud you for your talents and performance.

The achievement of BITSians after they graduate from BITS has a great influence in building the reputation of the Institute. BITS has a large pool of alumni who have excelled in different walks of life. Today, we are recognizing four such achievers through the Distinguished Alumnus Awards. I take this opportunity to thank all the alumni for their support.

It is a difficult task to enumerate the achievements of an Institute like BITS in a short report such as this. A more comprehensive list is available in the annual report presented to the Board of Governors.

I take this opportunity to thank the faculty, staff and students of Pilani campus for their whole hearted effort in giving their best for achieving personal excellence and thereby contributing to Institute's growth and reputation.

I once again congratulate the graduating students and wish them all the best. "Laugh Often, Dream Big, Reach for the Stars". A special word for the parents: I understand your pride in seeing your ward about to commence his/her next phase of life. For me and my faculty colleagues, it is no different. We look at them with pride and are confident that they will give their best to whatever they do. May all their dreams come true.

Thank you.

G. Raghurama, Professor & Director, BITS, Pilani - Pilani Campus

## DIRECTOR'S REPORT BY THE DIRECTOR, HYDERABAD CAMPUS



*Prof. V.S. Rao*

Respected Dr. Anil Kakodkar, the Chief Guest; Prof. B N Jain, the Vice Chancellor; Distinguished guests; Members of the Senate, colleagues & members of the BITS fraternity, Distinguished Alumni, students, parents of the graduating students, Faculty & Staff, representatives of the Media & Press, and the Star Students who are graduating this day. I am extremely delighted and proud on this rare, momentous occasion and extend my hearty congratulations to all the graduating students, and “best of luck” for your brightest future!

Let me report to you the highlights of the major achievements of BITS, Pilani Hyderabad campus. I have pleasure in informing that the first batch of 32 post graduate students, consisting of 13 of ME Computer Science and 19 of ME Micro Electronics, are graduating from Hyderabad Campus. This batch consists of 18 regular students and 14 working professionals. Hyderabad campus being the newest of BITS-Pilani, the first batch of undergraduate students will be passing out only next year. I am also extremely happy to inform that the very first batch of graduate students from the Hyderabad Campus are able to attend this convocation which is taking place after a gap of four decades.

On a review, BITS-Pilani, Hyderabad Campus became operational in 2008 which was one of the dream projects of late Dr. K K Birlaji, the then Chancellor, initiated at the invitation of the Government of Andhra Pradesh, for which the Foundation Stone was laid by the then Chief Minister of AP, late Dr. Y S Rajasekhara Reddy on 28<sup>th</sup> April, 2007. Another very important person associated with the establishment and commissioning of BITS-Pilani, Hyderabad Campus was eminent educationist and administrator, late Prof. S. Venkateswaran whose seamless guidance and timely advice were greatly instrumental in establishing the Hyderabad campus. With a project outlay of Rs. 270 crores, the Hyderabad Campus is currently fully operational, sprawling into 200 acres of land, with a strength of around 2500 students including those in Higher Degree and Ph. D – all completely residential. The construction activity is going on as per the schedule and will be completed by 2013 without any overrun.

The campus operates educational programmes at all three tiers, viz. Undergraduate, Postgraduate and Ph.D in engineering and sciences. Consistent with the multi-campus operations of BITS-Pilani, the Hyderabad campus has implemented all features of BITS educational system. The first batch of First Degree students are attending PS-II programme in about 100 organizations. We have already achieved 100% placement for the regular Higher Degree students who are part of this convocation. It is relevant to mention here that we had started with 13 under-graduate degree programmes in the very first year itself, followed by Post Graduate and Ph.D programmes in the second year.

A few of our achievements include the nomination of Dr. N Rajesh, Head of the Department of Chemistry as the Fellow Member of the Royal Society of Chemistry, London. Our Dean, Administration and Professor of ECE, Dr. M B Srinivas has been to Sweden several times in connection with his ongoing research jointly with KTH/Karolinska Institute, Stockholm on Design and Development of Portable Medical Systems for Telemedicine. Dr. Suman Kapur, Dean, RCD and Professor Biological Sciences, is a member of the Jury board of the prestigious King Faisal International Prize for Science (Biology). Dr. C R Hota, HoD, Computer Science & Information Systems, had delivered an invited talk on Information Security at ISDF 2009 held at London. He also visited City University, London in 2010 to participate in Collaborative Research on Cloud Security under UK-India Education & Research Initiative. Dr. D Jaya Krishna of Mechanical Engineering spent two months during the summer of 2011 at the Sustainable Energy Research Laboratory of Texas A&M University, Qatar, to carry out research on Hydrogen products. Dr. P Yogeeswari, HoD, Pharmacy Department delivered a talk on Computer-aided Drug Design to the Interdisciplinary group of faculty and students at Karolinska Institute, Stockholm during 2010. Dr. Venugopal Anamdas of Civil Engineering spent two months during this summer at NTU, Singapore as a visiting scientist. Dr. Amit Kumar Gupta of Mechanical Engineering has been awarded the Young Scientist Research Award by the President of India.

Several of our students have received International awards and fellowships. Mr Dhaval Moliya (ME, CSIS) received an award for undertaking his dissertation work at Alto University, Helsinki; Ms Anuradha Pal (PhD, Biosciences) was awarded a commonwealth fellowship for training at Concordia University; Mr. Sarthak Gupta a 4<sup>th</sup> year ECE student, was awarded the DAAD fellowship to spend three months at the University of Bremen, Germany, Ms Madhu Poornima (PhD Biosciences) presented her work at the Annual meeting of European Society for Human Genetics held in Amsterdam and Mr. P. Sai Phaneendra (ME, Microelectronics) was fully funded by Microsoft Research to present a paper at the prestigious ICCAD conference held in San Jose, CA. Mr. Anshul Vikram Pandey, a final year ECE student did a three-month internship at National University of Singapore during this summer.

As on date, Hyderabad campus has 117 faculty members and more than 2500 students comprising undergraduate and postgraduate students. While the current strength of PhD students is about 70, we expect to increase this number to 250 by the year 2015.

I am pleased to inform you that the campus has 44 funded R&D projects totaling an amount of 9.72 crores. The research endeavors of this campus are led by the Biological Sciences and the Pharmacy departments which have received a funding for Rs 4.12 and Rs 3.97 crores, respectively. The remaining funding of Rs 1.83 crores is split between the Departments of Chemistry (1.4 crores), Physics (39.43 lacs), Mechanical Engineering (21.2lacs), Civil Engineering (11.17 lacs) and CSIS (10.38 lacs).

Some of the significant ongoing projects are: DRDO funded project, involving "Development of an indigenous chip for detection of antibiotic sensitivity of Uropathogens under Dr. Suman Kapur and Dr Sriram's role on a collaborative Indo-Swedish project dealing with "development of anti-bacterial agents for dormant tuberculosis". Dr. P. Yogeeswari, HOD, Pharmacy department has secured three projects from DST and DBT worth Rs. 96 lacs with a research focus on design and discovery of drugs for Neuropathic Pain. Further, Dr. D Sriram and Dr. P Yogeeswari have a collaborative Indo-Swedish research project with Karolinska Institute, Sweden, on Antitubercular drug development. Also they are a lead partner of the Indo-Brazil-South Africa (IBSA) project on Anti-HIV drug development. The DBT Virtual Centre of Excellence for the treatment of Tuberculosis has been set up at the Pharmacy department. Dr. P Yogeeswari and Dr. Sriram hold an Indian patent and are also involved in editing the International Journal of Drug Design & Discovery.

Dr. Vidya Rajesh, HOD, Department of Biological Sciences has received three grants from UGC and DST with a total funding for Rs. 49.25 lacs and her research focus is on Characterization of

the risk factors and the role of T3 binding domain of the Thyroid hormone in autistic individuals and Polymorphism studies of the malarial vaccine candidate serine repeat antigen (SERA).

Several faculty members have more than one grant from multiple agencies, viz., Dr Punna Rao with Rs 31.65 lacs, Dr KVG Chandrashekhara with Rs 24.72 lacs, Dr N Rajesh with Rs 22.51 lacs, Dr Jayanty Subbalakshmi with Rs 22.25 lacs, Dr. R. Srinivasan with Rs 21.8 lacs, Dr. B. Harihara Venkataraman, Dr. Manab Chakraborty and Dr S. Bannerjee with more than Rs 19.5 lacs, Dr. Anupam Bhattacharya with Rs.18.8 lacs, Dr. G. Savitha with Rs 15.4 lacs, and Drs Amit Kumar Gupta, A. Vasan, Chittaranjan Hota, Srinivas Prakash Regalla, Sajeli Begum and Ramakrishna Vadrevu who have all succeeded in garnering more than 10 lacs each from funding agencies such as UGC, CSIR, BRNS, etc. It is worth mentioning that we have published 84 papers in international journals, 6 in Indian journals during the academic year 2010-11. Further our faculty have attended 45 conferences abroad and 41 conferences held in India.

All these achievements, in a short span of three years, have become possible due to the sustained hard work, dedication and commitment of our faculty, staff and students.

The following organizations have collaboration with BITS-Pilani, Hyderabad Campus: (1) Cypress Semiconductor, (2) Austria Microsystems and (3) Power Wave Technologies (4) GSS America. Besides this, the campus has set up a Centre of Excellence for Water Resource Management. We will soon be setting up a TBI (Technology Business Incubator) with financial support from the DST. I gratefully acknowledge the support received from Mr Manoj Saxena, an alumnus and Mr Raju Reddy, President BITSAA International in nurturing entrepreneurial and incubation activities on campus.

The Hyderabad BITSians have exhibited their prowess in co-curricular activities through their Fest **PEARL**. They imbibe the spirit of entrepreneurship through their own local chapter of CEL in Hyderabad, and also involve themselves in socially useful projects through platforms like NSS, NSEF, among others.

BITS-Hyderabad is generously supported by the Alumni who are in constant touch with many initiatives of BITS-Hyderabad campus. Many alumni and other important dignitaries from India and abroad have visited and appreciated the facility. The campus is poised for integrating novel educational systems, entering into new collaborative mode with organizations/ institutions within and outside India.

I understand that you, the students, are also excited about this event and this day, which is happening almost after a lull of 40 years. This certificate should mark the beginning of a new journey – a license to tread the challenging paths to a great career ahead which needs much more than a certificate, and hence, this degree should not be taken as an end in itself.

You are a BITSian, having the added responsibility of being ambassadors of the Institute, to enhance the value and image of your alma mater. I want you to be successful, and once again I take this opportunity to wish you all a bright future in your respective field and shine brilliantly in your profession. I would like to close my address with a quote from Charles E Young, Chancellor of UCLA, "Education is a life time pursuit. Success requires constant acquisition of knowledge and skills to compete in a world of accelerated change".

Once again my hearty congratulations to all of you.

Thank you.

V. S. Rao, Professor & Director, BITS, Pilani - Hyderabad Campus