



**Address  
of  
Dr. R. P. Singh  
Chairman  
Board of Governors**

**at**

**The 15<sup>th</sup> Convocation of  
Indian Institute of Technology Guwahati  
Saturday, 8 June 2013**

Distinguished Chief Guest of the Convocation Honorable Dr. M. M. Pallam Raju; My colleagues, Members of the Board of Governors; Director of the Institute, Professor Gautam Barua; Members of the Senate; Faculty and Staff; Graduating Students; their Parents/Guardians; Ladies and Gentlemen.

I on behalf of the Board of Governors and Faculty heartily welcome Hon'ble union minister of Human Resource Development, Dr. M. M. Pallam Raju. I also welcome to respected guests and proud parents and guardians of the students for gracing this occasion.

It is a special day for the graduating students who are receiving degrees and awards after years of hard work. I congratulate you and your parents who have worked hard behind your success.

No word is enough to describe the commitment and dedication of the faculty members of the Institute who have mentored and guided you over the years.

The globe is now your market place. You have to shade the shadow of protection of your parents, guardians and teachers. You have now the onus to demonstrate your skill to lead in which ever field to choose to work. You will encounter road blocks and bumpy rides.

Let me share with you a couplet of great poet and thinker Rahim which amply demonstrates intellectual's place in today's topsy-turvy society:

*pawas dekh Rahim man, koyal sade maun  
ab dadur wakta bhaye, hame puchahen kaun.*

But unmindful of it you have to create space for self in the society with hard work, dedication, perseverance, zeal to excel and above all tolerance as your predecessor have done.

Thus, I wish to urge upon you to convert these threats into opportunities. Set your goals high, and strive to achieve them with a passion for excellence. You are our true ambassadors of hope, as you are amongst the best talents available. Carry yourselves with dignity, pride and honour. Never bring into disrepute, the brand IIT by participating in any form of unethical practices, which may lure you. Rather than ignoring, condemn them. I strongly believe you will reach the highest pinnacle of your dreams if you engage yourself in truthful creation of wealth. Dream big. Strive hard to realize them.

Dear IITians, as India strives to emerge as a global leader, it is time, we think in terms of sustainable development which I do not wish to limit merely to issues related to environment protection and check on population growth.

Save Water:

In my opinion, while we are concerned, we should not be unduly concerned with population growth as long as we are able to meet the three basic needs of humanity - food, cloth, and shelter. The latter two are not of much worry, but the food, the most important amongst these three is a serious cause for worry.

To meet the global need of food we have to have sufficient quantum of water which will become a scarce commodity. If we don't check its unmindful exploitation including production of electricity. Our changed style of living, food habits and advent of almost timeless bulky communication, demand for more and more electricity, which is mostly dependent on fossil fuels backed by hydel and nuclear resources. These resources, though with proven technology, are becoming more and more unsustainable because of social pressures, high level of pollution, scarce land availability and variable costs of natural resources viz. coal, gas and nuclear fuel. Thus we have to harness non-conventional energy resources on much bigger scales, and create an alloy of energy resources

to meet our ever increasing demand of electricity. And save our valuable gifts, viz. water and air.

#### Culture of Discipline:

The second ingredient is the culture of discipline, which implies one can curtail unproductive expenditure, energy and time on monitoring performance and ethics in business. The work gets done automatically.

#### Wealth Creation:

The third and most important ingredient is to strive for betterment of the society rather than self alone or for few favour.

The world's greatest power – USA today is on a sticky wicket because of growing popular belief that the present form of governance favours few. It is being perceived as government for “one percent, of one percent, by one percent” rather than “for the people, by the people, of the people”.

#### Institution–Industry Joint effort:

Another important ingredient amongst many I have talked about for sustainable development is the Institution-Industry relationship. The collaboration of institution and industry is becoming more and more relevant with globalization taking the centre stage of performance with hyper competition. It is relevant to quote here Amartya Sen who wrote in Financial Times, March 10, 2009 that ‘The economic difficulties of today do not . . . call for some “new capitalism”, but they do demand . . . a clearheaded appreciation of how different institutions work, along with an understanding of how a variety of organizations-from the market to the institutions of state-can together contribute to producing a more decent economic world.’

Globalization has transformed how people live and work around the world. Driven by rapid technological advances and hyper-competition, these forces have resulted in greater market integration. At

the same time, these factors have contributed to economic uncertainty, increasing the need for better collaboration among business, government and academia to strengthen society.

As technological optimization increases, we can gain impressive proficiencies in *process* and *innovation*. That is, we can do things faster and often better – which is good, since our citizens, customers and markets demand superior performance. They demand that performance be combined with purpose to ensure rigour, relevance and results that enhance the overall integrity of the social fabric.

Hence, even as our tools for working faster and smarter increase, it is crucial that we consider the overall objectives that lead to a happy, healthy and prosperous society.

By blending performance with purpose, or success with significance, we increase our ability to implement policies and nurture institutions that are effective, productive and wise, resulting in enduring value for the people served.

An ideal opportunity to pursue these goals comes through *vigorous engagement between educational institutions and their counterparts in business*. At present, there is limited or very little connection between industry and academia. Each tends to operate in isolation from the other, and yet each stands to benefit greatly through stronger ties with the other.

The benefits include bridging theory and practice to put ideas into action, spurring innovation that makes the world a more prosperous and safer place. Greater partnerships between academia and business will deepen mutual understanding and enable each sector to cultivate the skills and opportunities that link performance and purpose for maximum social advantage – including as an engine for social entrepreneurship.

Our schools and colleges are engines of opportunity. They transform the lives of student/citizens by cultivating knowledge that leads to greater human potential. This knowledge, *when shaped and informed by market realities*, has an even greater potential to create value when applied entrepreneurial settings or within the organizations that deliver the goods and services that enrich our world.

Yet, to cultivate the greatest social potential, our institution should deepen their relationships with one another, communicating more effectively and co-creating the frameworks that can transform individuals, organizations and communities.

Harness Technology:

Man by nature engages self in producing, consuming and wasting. The degree varies with the ability to sustain. This is resulting into nature's irreversible exploitation. We have to engage ourselves with new technologies thru research and innovation which lead us to more sustainable products. We have to develop materials to be more ductile, elastic, non-corrosive, non-toxic and biodegradable. Meeting all these requirements through conventional technologies would be very hard. However, if the material composition, and hence properties, are determined at a much more fundamental level, it stands a much greater chance of success. Nanotechnology studies and manipulates at a very fundamental level so as to increase the functional utility of the material to the maximum possible degree. It has permeated to most modern areas of engineering and technology and is increasingly being applied to structural materials, pharmaceuticals, chemical locomotion, quantum computing, renewable energy, photonics, optics and semiconductor technology. Hence, there is a great opportunity to engage ourselves in this emerging area of research.

I am happy to share with you that the Centre for Nanotechnology at IIT Guwahati has undertaken a pivotal role and is

engaged in research on targeted drug delivery, chemical locomotion, nanomaterials as anti-cancer therapeutics, surface acoustic wave sensor, nanoelectronic sensors and quantum computing. The Centre provides invaluable service to the researches of the NE region by means of – essential assistance in materials preparation and analysis, providing scientific/technical know-how by organizing and participating in various scientific conferences, workshops and other similar fora.

Electronic System Design Manufacturing (ESDM) is planned to be setup as a long term manufacturing cluster in Assam by the Government of India. IIT Guwahati will be a partner to this venture with strong focus on plastic electronic materials for fabricating light emitting diode (LEDs), organic light emitting devices (OLED), organic photo voltaic (OPV), and theranostic electronic devices. IIT Guwahati has world class researcher in synthesis and development of novel catalyst and electronic materials for the next generation of electronics that would possibly help Guwahati to become a world-hub for development of new technology in all areas of plastic and organic electronics. This would involve facilities for large scale printing, manufacturing engineers, large scale prototyping facilities, personalized medical diagnostics and elementary business training for scientists and engineers. This endeavor would also encompass development multimodal detection systems for detecting low concentrations of biomolecules and labelfree detection with single molecule resolution using sensors that could leverage semiconductor technology. Guwahati Biotech Park established in the premises of IIT Guwahati is working on applied biology, where projects may be taken up through Public Private Partnership involving expertise of the faculty of Biotechnology and other allied fields.

Centre for Excellence on Sustainable Biodegradable Polymers and Gas Cracker facilities are also planned to be setup.

The prospective facilities can also utilize the intellectual capital base of IIT Guwahati consisting of faculty and researchers.

I am proud to see that in a short time IIT Guwahati has emerged as an institute of scientific excellence. I could anticipate a more proactive role of IIT Guwahati to tie up with industry.

My dear students, to conclude I share with you a few words of J. F. Kennedy who advised, "Do not fix the past, plan for future". Look ahead and plunge into shaping country's future with full of wealth, prosperity, happiness and enough resources left for the future generation.

Thank you and Jai Hind.

*Dr. R. P. Singh*

*Chairman, Board of Governors*

*Indian Institute of Technology Guwahati*