

# 2<sup>nd</sup> CONVOCAATION

August 11, 2013

## Address by Chief Guest

Dr Anil Kakodkar



भारतीय प्रौद्योगिकी संस्थान गाँधीनगर  
Indian Institute of Technology Gandhinagar



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I wish to begin by expressing my gratitude to Dr Baldev Raj, Chairman, Board of Governors, IIT Gandhinagar, the Director Prof Sudhir Jain and the administration of IIT Gandhinagar for inviting me to the 2<sup>nd</sup> Convocation of the institute.

IIT Gandhinagar is among the new IITs that were set up to strengthen India's technological capabilities that are so essential for India's march ahead in today's highly competitive and interconnected world. Given the present situation of higher technological education in the country that is largely characterized by little research in engineering and technology for a country as large as India, as well as large output of engineering graduates with questionable quality, the IITs have the challenge to lead the way for national efforts to create a paradigm shift in terms of both the capability to usher in domestic technology-enabled national development as also to enhance the number of high quality engineers and researchers to support nation building through cutting-edge research that solves difficult problems through affordable and effective solutions. I am aware of efforts to shape IIT Gandhinagar as a special place that would further such objectives. So I would first like to compliment everyone associated with IIT Gandhinagar which has already started making a mark in the context of the above paradigm.

Convocation is a special day in the calendar of an institute of learning. It marks the culmination of a phase of learning and after having satisfied that, the student is finally ready to face and contribute to the world at large, as a worthy professional in the chosen domain of learning and training. The teachers and other elders give the students their final words of advice and blessings before the student embarks upon the journey ahead. It is a solemn occasion for the students and also the teachers. The bond between the teachers and the student that is supposed to have been built through years of mentoring brings in an emotional content to the Convocation day. I wish to use this occasion to thank the faculty who in their own way have contributed to shaping the young minds while they are with the institute.

My congratulations to students who are graduating today. Some of you who are being specially recognized deserve our highest appreciation. All of you have gone through your respective courses of study and have been adjudged to be worthy of the degrees that are being awarded to you. You are now ready to face the exciting world out there. As an engineer or a technologist you have to be an important part of the nation building process through the respective capabilities that you have acquired here. Today there is ample scope for innovation and entrepreneurship. The way our country is evolving, the opportunities for the capable ones will continuously expand. I wish all of you graduating today a very successful career ahead. May all your dreams be fully realized.

India has a great heritage. India was a premier country in the world till about five or six centuries ago. We had great universities and centres of learning that attracted scholars from many parts of the world. We have

our time-tested value system. After a long period of oppression and foreign rule, India is now bouncing back. Democracy has taken roots in independent India. We have an unparalleled demographic advantage with the largest youth force. The Indian youth have demonstrated their capabilities through their impact both in technological and economic terms, both here as well as in other countries such as the USA. The world is now highly interconnected and an A3 (anyone, anywhere and anytime) connected society is fast taking shape. We are fast embracing the knowledge-driven economy worldwide. Technology is changing our lives faster than we could have imagined.

We need to be conscious of the impact of these rather rapid transitions around us. We need to prepare our societies to benefit from these transitions while preventing their ill effects. Some of the major challenges before our society today include opportunities and threats created by an increasingly competitive and interconnected world, the potential for greater disparities if policies of governance are not managed well and threats to the time-tested Indian value system.

While there may be several drivers of this evolving situation in our country, we must also acknowledge that apart from people who engaged themselves in mass movements at different times, a very large number of individuals have made key contributions in shaping the evolution in a healthy manner and in the right direction through their wisdom, sustained work and passionate contributions. For example, there have been people who pursued mathematics and astronomy and made new discoveries ahead of others. Others pursued social reforms in spite of several odds. Then we have had far-sighted pioneers who established key industries within the country despite adverse

circumstances. We need such people in large numbers, who can guide and shape society as it evolves through knowledge and technology driven transitions on one side and rapid mixing of cultures driven by instant communications that take place today on the other. Such people, through their research and analysis can present an authentic assessment of the transitions around, create innovative approaches to maximize the gains and minimize threats and prepare our youth with the capability to effectively deal with the evolving situation. The very fact that Indian traditions and culture have survived through centuries of external influence gives us the hope about our society has responded correctly to the changing paradigm. Institutions of learning have a special role in this regard. This is even more important in case of technology institutions in today's context.

All of us have the opportunity to be part of such people both by ourselves as well as through the students whom we teach and mentor. Through our teaching which should be at the frontiers of knowledge, through our research which should push the frontiers of knowledge, through development of technologies at the cutting-edge and through nurturing a spirit of innovation and entrepreneurship with strong commitment to our time-tested value system we have the opportunity to be an important part of that select group of people who can shape the destiny of our nation. At our IITs we have the possibility of creating a holistic learning environment that could be fertile ground for nation building in today's context. All of us must resolve to make that happen through our respective pursuits of scholarship, research and engagement with society and industry around. The new IITs have a special advantage and opportunity in this regard.

Let us look at today in this backdrop. We are in a way passing through a critical phase in our country. Are we well prepared for this transformation? How are we to respond proactively to the emerging situation? You will all agree with me that quality education that prepares our young people to embrace the changing scenario will be the key to success in this regard. Then there is the all important question of access to quality education for everyone. The future holds great potential if we are able to meet the challenge of providing quality education to all, but there are serious threats on the horizon if we are not able to do so quickly. Our large youth force must be provided with opportunities for constructive engagement in a manner that fulfils their aspirations. There is a need for some urgent actions in this regard, as otherwise this powerful engine of growth and development could well turn in to a major destructive force.

Engineering and technical education institutions and especially the teachers in such institutions, have a huge responsibility. Engineering and technology will play a key role in sustaining and enhancing the relative competitive edge of our country. This will become more important as our country moves further up the economic ladder. Such institutions and the faculty must therefore shape young people who can confidently engage themselves with the real world and make an impact through their engineering, technological and innovative capabilities. They should be able to do so in today's context as well as be ready to deal successfully with the emerging change. This task is crucially important to the future of India and all of us in engineering and technological institutions have a special role and responsibility in shaping that future.

High quality research in our engineering and technological institutions must be emphasized for a variety of reasons. Such research should span a wide spectrum of disciplines ranging from basic sciences and engineering to humanities, economics and management. The aim of research should be to push frontiers of knowledge as well as to evolve technologies and to implement them for development. This will require several dimensions to be incorporated in the research domain in our institutions. Our research should become comparable to the best in the world. So we should be able to identify individuals and groups who do research that can be compared with the best in the world and support them liberally. We should engage ourselves in some grand challenge activities of importance to the nation. Several faculty would need to come together to address such grand challenges in a coordinated manner. We should have an environment that incubates industrial enterprise making use of the R&D carried out in our institutions. We should have the presence of industry research on the campus in the form of research parks where our students and faculty have the opportunity to participate. Similarly, there should be presence of our national laboratories engaged in key national programmes on our campuses. At another level our students should be able to participate in these activities as a part of their learning of necessary knowledge at its frontiers, acquiring procedural knowledge in relevant areas as well as relevant skills. In my view, all this will make our education more holistic and also create an ecosystem that nurtures the spirit of innovation that we so desperately need to inculcate in our younger generation.

While such enrichment on the campus is a very desirable feature, we need to bridge a wide gap in the mutual confidence that exists between



our academia and our industry. We need to reach a condition in which both sides view mutual collaborations as a win-win situation. Considerable credible work is necessary to create confidence on part of either side to invest in the other. We need to explore opportunities to work together in a variety of mutually beneficial ways to create conditions of mutual trust and confidence.

As we engage with the industry, we should also explore opportunities to engage in R&D of relevance to society. There are many possibilities of technology being brought to bear on societal issues. This is of particular significance in the context of agriculture and rural development. Our students getting exposed to such activities would not only give them a good problem solving experience but also emotionally bind them with India in the true sense. We need to recognize that the above approach invariably would involve interdisciplinary efforts involving the sciences, technology, engineering, medicine, humanities, economics, management and others disciplines depending on the objectives of a particular development effort. Opportunities for students to participate in applications of such interdisciplinary efforts to address a particular challenge provide a holistic learning experience for them. This builds the capability to focus R&D on solving real-life problems rather than looking for problems that can be solved through research one is engaged in. The quality of education as well as of research improves considerably in the process. By preparing our students to be fully capable and ready to effectively be constructive in the emerging A3 (anyone, anytime and anywhere) connected society, we could perhaps accelerate the pace of inclusive development in an unprecedented manner.

I do wish that all of you will give serious thought to these issues and decide your respective course of action. It should be our collective efforts to progressively move towards making the world a better place to live. Through a lifelong learning process and by remaining connected to academia, industry and society, each one of us, regardless of the career we decide to pursue, can meaningfully contribute to this objective. After all we are all in this world to play our respective roles. Our happiness and joy depends on how well we play these roles.

To our students, I would once again wish them well in their respective future pursuits. I am certain that they will rise progressively in their respective careers. I do hope that as they rise, they retain in them a spirit of trusteeship and contribute substantially to their roots, the society around, the institutions that brought them up and the nation at large. It is this spirit of trusteeship and the desire to support others who were not as fortunate or successful as us that makes this world a better place. We must remember that our happiness depends on the happiness all around us. The IIT alumni have a great tradition in this respect. They are contributing in a very significant way to their alma mater. Each one of you passing out today is a natural leader for the alumni segment of the stake-holders of this new institution. I am pretty certain that you will play to perfection your role in shaping IIT Gandhinagar in a manner that others may want to emulate.

Once again my best wishes to all of you.

Thank you.





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