XII Convocation

वार्षिक दीक्षांत समारोह

2014

राष्ट्रीय प्रौद्योगिकी संस्थान राउरकेला

National Institute of Technology Rourkela

VISION

To become an Internationally acclaimed Institution of higher learning that will serve as a source of knowledge and expertise for the society and be a preferred destination for undergraduate and graduate studies

MISSION

To advance and spread knowledge in the area of science and technology leading to creation of wealth and welfare of humanity

NATIONAL INSTITUTE OF TECHNOLOGY

ROURKELA

XII Convocation

17 January 2015

Chief Guest

Padma Shri Dr. Srikumar Banerjee

DAE Homi Bhabha Chair Professor
Bhabha Atomic Research Centre, Mumbai

Prof. Sunil Kumar Sarangi
Director

Mrs. Vasantha Ramaswamy
Chairperson, Board of Governors

XII Convocation

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Programme

- 10.00 a.m. : Academic Procession Arrives
  (All present may kindly rise and remain standing till the dignitaries on the dias take their seats)
- 10.02 a.m. : Invocation
- 10.05 a.m. : Convocation declared open by the Chairperson, Board of Governors
- 10.06 a.m. : Welcome address and presentation of report by the Director
- 10.36 a.m. : Award of Degrees
- 11.45 a.m. : Presentation of Medals
- 11.55 a.m. : Taking of pledge by the degree recipients
- 12.00 Noon : Address by the Chairperson, Board of Governors
- 12.15 p.m. : Convocation Address by the Chief Guest
- 12.45 p.m. : Convocation declared closed by the Chairperson, Board of Governors
- 12.46 p.m. : National Anthem
  (All present may kindly rise)
- 12.47 p.m. : Academic Procession leaves
  (All present may kindly rise and remain standing till the last senator leaves)
- 1.00 p.m. : Lunch

Venue : NCC Ground, NIT Rourkela

The Chief Guest

Padma Shri Dr. Srikumar Banerjee

Homi Bhabha Chair Professor
Bhabha Atomic Research Centre, Mumbai

Prof. Srikumar Banerjee is Homi Bhabha Chair Professor at Bhabha Atomic Research Centre (BARC), Mumbai and Chancellor, Central University of Kashmir, Srinagar. He served as the Chairman, Atomic Energy Commission and Secretary to the Government of India, Department of Atomic Energy during 2009-2012 and as Director, BARC during 2004-2010. He is currently holding Distinguished Visiting Professor positions at Indian Institute of Technology Bombay, Indian Institute of Science, Bangalore and University of Delhi.

His major research contributions are in the areas of phase transformations in zirconium and titanium alloys, effect of radiation on order disorder transitions and tailoring microstructure and texture of nuclear structural materials through thermo-mechanical processing. He has over 350 research papers, co-authored a book titled *Phase Transformation: Examples from Titanium and Zirconium Alloys* and co-edited six books. As Director, BARC, he organized research in nuclear fuel cycle, design of innovative reactors, applications of radiation and isotope technology in agriculture, healthcare, and food preservation and industry. He initiated capacity building activities both in front and back end of the nuclear fuel cycle. He is currently engaged in research in advanced nuclear fuel cycle, policy for sustainable energy and metallurgy of actinides.

His honours include Acta Metallurgica outstanding paper award (1984), Bhatnagar Prize in Engineering Sciences (1989), Humboldt Research Award (2003), Indian Nuclear Society Award (2003), Padma Shri (2005), Distinguished Materials Scientist of the Year (2008), National Metallurgist Award (2008), Presidential Citation of American Nuclear Society (2012) and W.J. Kroll Medal from ASTM (2012). He is recipient of Doctor of Science (*honoris causa*) from nine universities and institutes. He is a Fellow of Indian Academy of Sciences, Indian National Sciences Academy, Indian National Academy of Engineering, National Academy of Sciences, India and The World Academy of Sciences (TWAS).

Chief Guest 's Speech

Dr. S. Banerjee

DAE Homi Bhabha Chair Professor
Bhabha Atomic Research Centre, Mumbai

Chairperson and members of the Board of Governors, Director, Distinguished members of the Senate, Deans of faculties, all faculty members, distinguished invitees, students, particularly those who are graduating today, invitees, ladies and gentlemen,

I am indeed greatly honoured and feel deeply privileged to be here to deliver the Convocation Address of National Institute of Technology Rourkela. On this occasion I extend my greetings and congratulate all of the graduating students who are receiving their degrees. The future of tomorrow will be shaped by the students of today. Lots of responsibilities and excitement are in store for the young graduates who are going to receive their degrees today. This exciting moment is going to open the door for a new world of higher education, professional career, entrepreneurship, innovation, great discoveries in research, technological development, and many other avenues to you. I wish you all the best in your journey along whatever path you choose to contribute to the society and human welfare. I also extend my congratulations to the parents of the students who are getting their degrees today.

National Institute of Technology Rourkela formerly, Regional Engineering College, Rourkela is a well known institute of higher learning for engineering and technology located in the steel city of Rourkela. This premier institution was established on 15 August 1961 under the great visionary of Biju Patnaik, the then Chief Minister of Odisha. The foundation stone of this institute was laid by Pandit Jawaharlal Nehru, the first Prime Minister of India. Since 2002, National Institute of Technology, Rourkela, is enjoying the autonomy and functional independence as an institute of national importance.

The most valuable knowledge is the one that works for the benefit of the society. Knowledge is not the sum of pieces of information we receive during a course of study. Information becomes obsolete very fast and need continuous updation. Knowledge is something much deeper which we acquire through accumulation of information over a period suitably distilled by our own experience and rationale thinking. This process continues through our entire life. University education not only imparts information of all sorts but also equips us with the ability of learning more during the course of our career. The rationale and analytical thinking which one develops during the period of University education also helps in the assimilation of information into knowledge. Finally, wisdom results from the accumulated knowledge, rich experience and a value system imbibed during the course of one's life. University education sows the seed of such a process.

As a Scientist, I believe that we have a responsibility not only to satisfy our curiosity through scientific investigation but also contribute towards the betterment of the society. Apart from bringing about material prosperity through scientific innovation they can help in inculcating a scientific temper in the entire society.

One of the major challenges before humanity today is to fulfill the aspirations of a large population of the developing world at the same time preserving the environment of this planet. As you are all aware, resources – land, material and energy – are all depleting at a fast rate and the demands on each of these are ever increasing. No doubt, it is extremely difficult to maintain a balance between these opposing forces. To my mind this global problem can be tackled if we pay serious attention to three major issues, viz. education, energy and environment. Let me now elaborate each of these issues:

Education is a key to the basic knowledge, development of skill, innovative abilities and attitude of an individual. University education is not just teaching or learning the basics of science, engineering, arts and commerce. It is rather a place for activation of thinking process and creativity in a natural way in order to have a successful and strong foundation in everyone's life. Education empowers everyone. As Pandit Jawaharlal Nehru said "A university stands for humanism, for tolerance, for progress, for adventure of ideas and for the search of truth. It stands for the onward march of the human race towards ever higher objectives".

It is well known that the country's future is in the hands of the young population. The intellectual capability of young minds and their desire to contribute to the welfare of the country are great assets for taking our country to greater heights. Nurturing this pool of talent and providing them with good education in the institutes of higher learning will go a long way in the process of fostering creativity and developing a knowledge based economy for our country.

The availability of energy is essential for the economic growth of a country. Human Development Index (HDI) is strongly related to the per capita energy consumption. While the average per capita electricity consumption in the world is about 2500 KWh, that in India is only 700 KWh. Though there is no need for targeting an energy consumption figure in our country to a level that is prevalent in Western Europe and North America (8000 – 12000 KWh), for attaining the status of a developed country, electricity consumption level should reach nearly 3000 KWh. It is indeed shocking that even today nearly 25% of the households in the country do not have access to electricity and electric power is quite unreliable with several hours of power cut in most parts of the country. Without improving the situation of reliable power supply it is not possible to think of any development – be it in industry, agriculture, education or healthcare.

This growth in electricity generation is indeed a big challenge.

With the increasing complexity, diversification, and globalization of human activities, the problem of environmental pollution threatens the sustained development of human society. Apart from global warming, there are several other serious concerns such as the presence of pollutants, like volatile organic compounds CO, NOx and heavy metals in environment. Thus environmental remediation is going to be an important area of research for removal or detoxification of hazardous substances from air, water, and soil. These toxic species need to

be adsorbed, separated or decomposed. The recent developments in nano-materials have a promise towards addressing some of the environmental problems.

To my mind, the challenge we are facing today is bringing harmony between extensive growth in energy production to meet the aspirations of the developing world and at the same time preserving environment of mother Earth. The concern of climate change and global warming is indeed genuine. A rise in the level of sea water by about a meter will inundate an extensive area of our country and displace a large population from their present habitat.

We are thus at the crossroad where a significant increase in energy generation is essential keeping an eye on resource preservation and protection of environment. My Young Friends, this is the challenge that awaits you as you enter a new phase of your life. At this juncture, let me point out that this is not for the first time that the human race is facing such a conflicting scenario. Two centuries ago the industrial revolution had seen the widespread use of coal fired steam power after James Watt's invention, which altered the way of life of millions of people. Some of the consequences were quite serious: agriculture lost its importance, large scale migration of people to the cities caused unhealthy living conditions in urban areas, enormous industrial and environmental pollution, dreadful working conditions and dark satanic mills of Victorian Britain. The management of the contradictions in the human development requires innovative technology solutions, and today our country and the humanity as a whole are looking forward to such solutions in the energy production scenario. It is the process of innovation that delivers new technology to the society. This is where, my young friends, lies the challenge of the new millennium.

By innovation, we necessarily mean deviating from the well-trodden path. The traditional energy generation scenario is heavily dependent on the fossil fuels consisting of coal, oil and natural gas. In the Indian context, to reach a per capita annual energy target of 3000 kWh within next two or three decades, the fossil fuel based thermal power plants will be required to add a capacity of over 600 GWe. Apart from the resource limitations in oil and gas sectors, this will lead to unacceptable stress on the global environment. The fossil fuel fired thermal power stations are the major contributors to the emission of green house gases, especially carbon dioxide in the atmosphere. Last century, as a result of rapid industrialization, has experienced an increase in the concentration of various green house gases by 30-150%. These gases are responsible for trapping of solar radiation and thereby lead to the global warming. Rigorous climate modeling and measurements carried out across the globe have indicated the inevitability of a rise in the mean temperature of our planet by as much as 5^0 C and a consequent rise in the mean sea level that will lead to the large scale inundation of parts of lower Gangetic plains. Continued global warming will also accelerate ozone destruction leading to increase in the UV radiation level. For India, in particular, a large capacity building in fossil fuel based power stations will increase our share of global CO_2 emission from the present level of 5% to 45%. It is a matter of severe concern.

In order to avoid the major risk of potentially catastrophic effects of climate change, it is necessary to stabilize atmospheric concentration of CO_2 in the range of 600-650 ppm, that is about twice the concentration existing before industrial revolution. In order to do so we must increase in a sustained manner the carbon-free sources of energy, that is some combination of nuclear, renewable and fossil fuels with sequestration.

Nuclear energy is a primary source of energy with a large growth potential and, therefore, any India-specific energy strategy must consider nuclear energy as a major alternative. The essence of a conventional nuclear reactor is the controlled fission chain reaction of U-235, which occurs at only 0.7% isotopic composition in the natural uranium, the rest being the un-fissionable, but fertile isotope U-238. While our known uranium resources are low, we have extremely rich reserves of thorium, which can be converted to the fissile form, i.e. U-233, for generating nuclear energy. Consequently, large-scale utilization of thorium must form an important element of our energy strategy.

The current share of nuclear power in India is about 3%, but it has received a major fillip in recent years and it is poised to grow steadily. The key to the capacity building in nuclear power sector critically depends on the development of reliable nuclear power stations and an integrated system encompassing the complete fuel cycle, waste management and fissile fuel breeding. I take pride in informing you that India has already developed adequate core competence in all aspects of nuclear energy and its roadmap for the three-stage nuclear programme provides a blueprint for achieving sustainable energy security. The first stage utilizes natural uranium as fuel and heavy water as moderator in Pressurized Heavy Water Reactors (PHWRs), which have been developed completely indigenously. India is now self sufficient in all aspects of PHWR technology. The second stage of the nuclear energy programme is based on Fast Breeder reactors (FBR), which are fuelled by plutonium obtained by reprocessing of spent fuel of the thermal reactors. Fast reactors produce more fissile material than what they consume and thus enable multiplication of fissile inventory and enhancement of the installed capacity. The high neutron yield in the fission process of plutonium also allows conversion of thorium into fissile U-233. The Fast Breeder Test Reactor at Kalpakkam, operating with indigenously developed mixed uranium-plutonium carbide fuel, has achieved burn up of 155,000 MWd/tonne. The Prototype Fast Breeder Reactor of 500 MWe capacity is nearly ready at Kalpakkam and is expected to be commissioned during this year. The third stage will be based on the thorium-U-233 cycle. Timely implementation of this stage is very crucial for meeting the increasing carbon-free energy demands in the country. I would like to stress here that the entire thorium utilization programme would eventually require several new technology inputs. Many of these technologies have to be developed for the first time and independently in India, since no other country is as much dependent on the early implementation of the thorium fuel cycle as India is. With sustained efforts over the past several years, India has developed sufficient experience, which has led to operation of a research reactor KAMINI based on U-233 fuel at Kalpakkam and design of an Advanced Heavy Water Reactor (AHWR) with the objective of developing several enabling technologies required for thorium based systems at BARC. Thus the Indian Nuclear Programme has the potential to provide long-term energy security to the country for several centuries to come.

At this point, let us inquire whether this vision of abundant nuclear energy based on fission reaction be sustained for ever? For nuclear power to meet more than a few percent of the world's greenhouse constrained energy needs in the 21st century would require thousands of GWe of nuclear capacity. One of the greatest obstacles in realization of this vision is how to properly handle the highly radioactive waste, in particular, long-lived transuranic elements, e.g. Plutonium, Neptunium, Americium, Curium, and fission products, e.g. I-129, Cs-135, Tc-99, Zr-93, Pd-107 etc. The radio-toxicity of transuranic elements is about 20000 times

that of the fission products after 1000 years. While the current strategy of partitioning and waste disposal schemes involving long-term geological storage is satisfactory, there exist environmental concerns relating to the long-term hazards and it is a matter of continued discussion. In order for nuclear energy to realize its full potential as a major source of energy, there must be a safe and effective way to deal with this waste.

Accelerator Driven Sub-critical System is an innovative concept of a hybrid system for energy production and transmutation of long-lived radioisotopes. A sub-critical reactor is a nuclear fission reactor that produces fission without achieving criticality. A sustaining chain reaction is achieved in a sub-critical reactor using not only fission neutrons but also additional neutrons from a spallation source. Spallation neutrons are generated when a beam of high-energy protons (> 500 MeV) is impinged on a high atomic number target, e.g. Lead-Bismuth, uranium, thorium. A sub-critical nuclear reactor coupled to a particle accelerator to produce spallation neutrons is called an Accelerator-Driven Sub-critical System (ADSS). The system would convert highly radioactive materials with half-lives as long as several thousand years to non-radioactive materials or materials with much shorter half-lives. In addition, the hybrid system can generate electricity while converting the transuranic waste. This interesting concept of ADSS is credited to Nobel Laureate Carlo Rubbia, who was the first to conceive a design of a sub-critical reactor, the so called “energy amplifier” based on a proton accelerator with a beam energy of 800 MeV to 1 GeV. Initial experiments have shown that the most vital element of this concept is correct: the energy produced by fission is about 30 times that supplied by the accelerator. The energy amplifier concept, which allows large scale conversion of thorium into fissile material can also be used for incineration of nuclear waste.

Solar energy is yet another primary source of energy. It is prudent for us to invest our efforts to harvest energy from the Sun. India is endowed with a rich solar energy resource with average incidence at a robust 4-7 kWh per square meter per day and most parts of the country have 300-330 sunny days a year. This is equivalent to an energy exceeding 1600 kWh per square meter per annum. Further in the Indian context, where nearly 40% of the population is without the grid access, the solar energy can be used in much more effective manner. The current share of solar energy is limited to only about 0.5% of the energy demand in the country. The projections indicate that by 2020 installed solar capacity will touch 20 MWe. The major bottleneck, at present, in tapping the potential of solar energy is the high cost photovoltaic conversion. For achieving ‘grid parity’, i.e. cost comparable with the conventionally generated electricity, several innovative technology solutions are needed. These include, for example, thin film based high concentration photovoltaics, nanosolar systems that use nanomaterials, and manufacturing technologies that significantly cutback on material use and cost. We need to learn from the nature, which has developed its own technologies for converting carbon dioxide into oxygen and hydrocarbons. Photosynthesis by plants and algae is a natural carbon sink that exists in the nature. The plant system takes carbon dioxide released in the atmosphere and manufactures carbohydrates through an anabolic reaction in the presence of sunlight. The natural processes such as photosynthesis facilitate reduction in entropy generation and bulk level scalability. It is worthwhile looking at the natural processes and mechanisms in order to find the solutions to our problems.

Ladies and Gentlemen, the energy resources and their utilization have continuously evolved in the history of mankind, thanks to the human innovations. From the time of the recorded history of human being till the start of the 20th century, wood and later coal provided energy for cooking and manufacturing, and the animal power for transport. In the next phase of human development, electricity and oil played the dominant role. Today electricity offers a convenient energy supply in our homes and industries, and oil as the basis for transport. While this change was fundamental to the technological advances, the energy provision was still carbon-based, produced from fossil fuels, i.e., coal, oil and natural gas. Today, we are witnessing the disastrous effects of this on the environment. Now that we are standing at the crossroads, there has to be a paradigm shift in the entire philosophy of energy utilization. In future the energy will have to come from burning of atoms in fission reactions in a critical or sub-critical nuclear reactor and in fusion reactions in a thermonuclear reactor on the Earth or on the Sun.

My young friends, the question that must be coming in your mind is whether the educational background you have attained is adequate for entering into this field of advanced energy technologies. The answer is affirmative 'yes' provided you have the spirit of taking challenges and the inclination to learn more and more as you advance in your career. As you can well appreciate the accelerator technology will require in-depth knowledge of electrodynamics, accelerator physics and high power electronics. When you wish to couple a charged particle accelerator with a nuclear reactor it will be necessary to master the concepts of reactor physics and for handling the intense energy density involved in such a system thermal engineering will be equally important. The demands from the materials will also be extreme and, therefore, science and engineering of materials will also play a major role. I am only trying to emphasize that a program like this will throw open several challenges to practically every discipline of science and engineering. Those of you who wish to experience the excitement of developing new technologies, which are based on advanced scientific ideas, should build their career accordingly. I can assure you from my personal experience that the satisfaction you derive in facing and meeting such challenges is indeed immeasurable.

Finally I may say that every one of you must cherish a dream ¾ a dream of a better tomorrow, for yourself and also for the people at large. Dr. Homi Bhabha dreamt of making India an advanced nation in nuclear science and technology and worked passionately for it. What we see today on the nuclear science and technology front is the realization of Dr. Homi Bhabha's dream. It is a saga of self-reliance, self-confidence, commitment to the development of indigenous technology and faith in our home grown high quality human resource.

Let me once again congratulate the graduating batch, all the prize winners, and the teachers of this great institution of learning.

Thank you.

JAI HIND

Chairperson, Board of Governors

Mrs. Vasantha Ramaswamy

Founder Director of Aprameya Associates, Pune

Mrs. Vasantha Ramaswamy, Founder Director of Aprameya Associates, Pune, obtained her First Class Bachelor's Degree in Mechanical Engineering in 1967 and is the first woman mechanical engineer from the University of Pune. She obtained Master's Degree (by Research) in Tribology in 1977.

In 1967 she joined the Defense Research and Development Organization (DRDO) as a Junior Scientific Officer and became the first Woman Armament Scientist in India. In DRDO, she was responsible for the successful creation of many 'First in India Design Achievements' such as Design of Test Rigs for Spin Stabilized Rockets, Electro Mechanical Safety Arming Mechanism for Indigenous Guided Missile Warheads, Aircraft Bomb Fuse for Parachute Retarded Aircraft Bombs, Creation of the Technology Base for Indigenous Development of Slewing Ring Bearings, Design and Supply of Indigenous Slewing Ring Bearings for Bucket Wheel Excavators at Neyveli Lignite Co.

She has received the AGNI Award for Excellence in Self Reliance (1999) for the analysis of Failure of 1st stage support mechanism of AGNI missile launcher during launch phase and redesign of the system with proven reliability.

Among the many awards and honours, she has received the National Commission for Women in India Felicitation in 2001, Best Woman Executive Silver Award in 1987 by IMM-CINNI, Best Project DRDO cash awards in 1986, Outstanding Alumni Award, College of Engineering, Pune in 2012. She was the Maharashtra State Governor's nominee on the Executive Council of Dr. Babasaheb Ambedkar Technological University, Lonore.

After 33 years in DRDO, she chose to become an entrepreneur in 2001. She is the Founder Director of Aprameya Associates. The company has been providing Multiphysics CAE Solutions for its clients in Defense, Aerospace, Energy, Cement, Steel & Engineering industries. Over the last 14 years, it has provided solutions for optimizing existing designs, investigating systemic failures and has achieved significant Product/Process/Performance improvements.

She is also the Founder Chairperson of Akshar Anand, a charitable organization working for empowerment of children from economically and socially challenged backgrounds, through Non-formal Education Methods, facilitating Higher Education, Personality Development, Conflict Resolutions through Counselling and Support. All the above activities are self-financed and with donations from family and friends.

Mrs. Ramaswamy believes in dignity of all human beings, fearlessness and freedom of action, honour system of people management, open transparent organizations and gender equality. She believes that investment in human potential is the most sustainable investment with maximum dividends.

Chairperson's Address

Mrs. Vasantha Ramaswamy

Chairperson, Board of Governors

- Dr. Srikumar Banerjee, Former Chairman, Atomic Energy Commission and Secretory to Govt. of India, Dept. of Atomic Energy, and Chief Guest of Today's Function,
- Distinguished Members of the Board of Governors,
- Distinguished Guests, Prof. Manindra Agarwal, Dept. of Computer Science and Engineering, IIT Kanpur and Dr. Bansidhar Panda, Industrialist & Former Chairman of BOG, NITR,
- Distinguished Alumni, Shri Sashi Shekhar Mohanty, Director (Technical), SAIL., Shri Gopi Kant Ghosh, Joint CEO(Rtd.), KVIC., Shri. Prabhakar Singh, Director, Connecticut Global Fuel Cell Centre USA, Shri Pramod Kumar Jain, Executive Partner, Kailash Rubber Industries, Agra,
- Esteemed Members of the Senate, Director and Registrar,
- Esteemed Faculty and Staff Members,
- My Graduating Students, Ladies, Gentlemen and Media,

It is my proud privilege today to address this gathering at the 12th Convocation of the National Institute of Technology Rourkela, which is an auspicious day for all of us present here and a Red letter day in the lives of the graduating students. This Institute over the years has become a Centre of Excellence imparting quality education in Engineering and Technology. I would like to express my deep appreciation of its progress, to its distinguished Director Prof. Sunil Kumar Sarangi and all members of the faculty, other supporting staff, for their role in ensuring sustained accomplishment over the years. I would also like to congratulate him and his team for their determined efforts at making the Institute internationally well known.

Today National Institute of Technology Rourkela is among the most prestigious Institutions in the country, with a reputation for excellence in education, research and consultancy at undergraduate, postgraduate and doctoral levels. It is passionately committed to making our country a world leader in technology and science, by inculcating this commitment among all its students. Our aim is to be known for our academic standards and to be counted amongst

the best Technological Institutes of India in terms of Innovation, Entrepreneurship and Creation of Intellectual Wealth.

NIT Rourkela is an autonomous Academic Institute, created by an Act of Parliament to impart quality education in technology and sciences at international standards. It is administered by a Board of Governors (BOG). The President of India is the Visitor of the Institute. He nominates its Chairperson of BOG. The Director is the Executive Head of the Institution. They along with other members of the board constitute the body corporate of the Institute.

The Senate comprises of all the professors of the Institute and a few members nominated by the Chairman, BOG. It is responsible for the maintenance of standards of instruction, education, examination and all other academic matters. Other relevant administrative roles are performed by the Registrar, The Deans, Heads of the departments and centres, Chief Warden, Wardens and members of faculty. The Institute has diversified academic programs with 17 academic departments offering specialized courses at undergraduate, postgraduate and doctoral levels. Admission to the Institute is mostly through National Level Competitive Examinations like All India Engineering Entrance Examination (AIEEE), the Graduate Aptitude Test in Engineering (GATE) for post graduate programs and special tests conducted by Institute for its research programs.

NIT Rourkela has been placed in 8th Rank in All India Engineering College Survey Ranking by EDU-RAND survey, and it has been placed 11th (eleven) Rank in Data Quest CMR All India Best Tech School Survey 2013-14. It has been awarded the National Education Award 2014 for Outstanding Engineering Institute (East) by ABP News. These awards were given to NIT Rourkela by a panel of professionals who believe in nurturing talent and in recognizing the best of the best, chosen by an independent jury. The awards are in recognition of leadership development in engineering and technology, advertisement and marketing of the institute, and creation of the industry interface.

You would be glad to know that over the years, the institute has given added emphasis to Post Graduate Programs. There are over 800 Ph.D. scholars and over 1500 Post-Graduate students. In this convocation today there are 640 Master's students and 50 Ph.D. scholars being awarded their degree, which is a matter of great pride for all of us. A number of patents have been applied for by many of the researchers working here.

At present the number of Ph.D. holders among faculty members in our Institute,I learn may be highest among NITs. The newly established Departments, such as Bio-technology and Medical Engineering (BM), Life Sciences (LS), Industrial Design (ID), School of Management

(SM) etc. have started functioning fully. The most recently established departments of Food Processing Engineering, Earth and Atmospheric Sciences and Planning and Architecture are getting stabilized. The total student strength is nearly 6000 at present and growing.

I feel proud to see that among the winners of the Institute Gold Medal, there are many women and I am glad to note that they are excelling in the areas from Life Sciences and Chemistry to Computer Science and Signal Processing and in Management. Among the six Gold Medal Winners, five are women. I am sure that having passed out of this great portal of knowledge, they will continue to blaze a winning trail throughout their lives and occupy high positions in India and abroad. Even among the Silver Medal winners there is an equal distribution of men and women and I hope they will continue to grow in step with each other without any gender bias and achieve their Very Best in future. Our nation requires the Maximum from everyone, man or woman in every field to be among the leaders in the comity of nations of the developed world.

My heartiest congratulations to each and everyone of the graduating students.

The Institute has conducted over 40 short term courses, conferences, seminars and workshops. It has won 41 Sponsored Projects with value of over 10 crores and has also obtained 20 Consultancy Projects with worth over 43 Lakhs. The young faculty are continually encouraged to reach out to the various agencies and obtain sponsorships for projects in their field. By this they learn to market the knowledge pool of the Institute along with their own capabilities and customize it towards the interest of the sponsoring industry. The growth of any Institute is directly linked to revenue earned through sponsored projects. The senior faculty in every department offers their mentorship for this activity.

Our students are among the fortunate ones who have access to educational experience at this renowned institution, providing them with the key to the storehouse of vast alumni links, enabling them to win in the environment of intense competition, to create wealth for themselves and for organizations they work for. We must always remain aware that it is our bounden duty to strive for the welfare of society, by reducing disparity therein and to empower those who are less privileged.

As many of you may be aware that NITRAA, the Alumni Association of NIT will be celebrating its Golden Jubilee this year. What better opportunity can there be for each one of you, the new alumni, to interact with your seniors, those who passed out last year to those who passed out more than four decades ago at the same time. I do fervently wish that each one of you finds it possible to become members of NITRAA before you leave this institute and thus begin a cherished association that will be with you, so long as you live on planet Earth.

Those of you who are receiving the baccalaureate, I wish to congratulate you on the choice of your career. However I would like to remind each one of you that the process of learning and gaining knowledge does not end here but will go on throughout your life. As you learn and gain knowledge and experience, give off this to others, so all can benefit from it. Knowledge is the one thing in this world which keeps increasing as you keep giving.

For time immemorial our culture has always emphasised on inclusive growth and stressed on the great values for life, a deep concern for human development and well-being. We should sincerely and intensely aspire towards deepening and broadening our knowledge, learn to experience the power of collective team work, and always be guided by higher values which we believe in. In all that lies ahead of us, may God grant us courage, wisdom and to achieve the success we deserve and bless us with the fulfilment of all our goals.

Thank You.

JAI HIND

Director's Report

Honourable Chief Guest Padma Shri Dr. Srikumar Banerjee, Honourable Chairperson, Board of Governors, Smt. Vasantha Ramaswamy, Members of Board of Governors, Members of the Senate, Deans, Heads of the Departments, Faculty Colleagues and Staff of this Institute, Distinguished Guests, Recipients of Degrees and Awards, Nominees of Electronic and Print Media, Alumni, Students, Ladies and Gentlemen:

On behalf of the Senate, National Institute of Technology Rourkela and on my own behalf, I consider it a special privilege and honour to extend to you all the most cordial welcome to the Twelfth Convocation of our Institute. Two very special personalities are among us to share the pleasure of this unique event. Ladies and Gentlemen, before I present the highlights of the activities of our Institute during the past one year, let me have the honour of introducing them to you.

Our Chief Guest today is Padma Shri Dr. Srikumar Banerjee. Dr. Banerjee is well known globally for his work in the field of physical metallurgy and materials science. He obtained his B.Tech degree with honours in Metallurgical Engineering from Indian Institute of Technology Kharagpur in 1967. After graduation, Dr. Banerjee attended the Training School of Bhabha Atomic Research Centre (BARC) and joined the Metallurgy Division of BARC in 1968. Dr. Banerjee thereafter has devoted his entire scientific and professional career to this organization and the Department of Atomic Energy. It is a privilege to recount his glorious career which will motivate our graduating students. Based on the work carried out by him in the first few years at BARC, he was awarded the Ph.D. degree from IIT Kharagpur in 1974. He then became Head of Metallurgy Division and Associate Director of Materials Group. He has taught Physical Metallurgy, Materials Characterization and Mechanical Behavior of Materials at the BARC Training School and has supervised many scientists for their Ph.D. degrees. He has been the Director of BARC from April 2004 to May 2010 and Chairman Atomic Energy Commission between November 2009 and April 2012. In all walks of life, he has brought honour to our country in general and to the discipline of metallurgical engineering in particular.

It is important to recount that Dr. Banerjee has extensively researched the metallurgy of zirconium and titanium based alloys and their thermo-mechanical treatment for processing nuclear reactor components. Today he is one among the most leading materials scientists of the world, who has made outstanding contribution to development of many materials. His expansive work on physical metallurgy of zirconium alloys and radiation induced order-disorder transition are widely quoted in scientific literature. His 2007-book *Phase Transformations: Examples from Titanium and Zirconium Alloys* co-authored by Pradip Mukhopadhyay is a comprehensive treatise on the subject.

Dr. Banerjee took over as Chairman, Atomic Energy Commission of India (AECI) in November 2009. He superannuated as the Chairman, Atomic Energy Commission and the Secretary of Department of Atomic Energy (DAE) on 30th April 2012. He is currently a DAE Homi Bhabha Chair Professor at Bhabha Atomic Research Centre, Mumbai.

Ladies and gentlemen, my time is too limited to introduce such a great personality in detail and I will not even try to do that. Dr. Banerjee has held numerous visiting positions overseas which include the University of Sussex, Brighton, England, Max-Planck-Institut für Metallforschung Stuttgart, Germany, University of Cincinnati and the Ohio State University, USA. In recognition of his scientific excellence, many awards and honors such as the Shanti Swarup Bhatnagar Prize for Science and Technology in Engineering Science of 1989, G.D. Birla Gold medal of 1997 by the Indian Institute of Metals, the INSA prize for Materials Science of 2001 and Indian Nuclear Society Award of 2003 have been bestowed upon him. He was conferred with the Padma Shri in 2005. In 2010, the University of Calcutta honoured him with the Doctor of Science degree. I am sure the presence of Dr. Banerjee will inspire all our graduating students to strive for an illustrious career like him.

We extend an equally warm welcome to Shrimati Vasantha Ramaswamy, the honourable Chairperson of the Board of Governors, NIT Rourkela, to the Twelfth Convocation of our institute. The Founder Director of Aprameya Associates, Shrimati Ramaswamy is a mechanical engineer, having over three decades of professional experience with the Defence R&D Organisation (DRDO). She graduated as one of the first mechanical engineers of the University of Pune in 1967. She joined as a scientific assistant at the Armament Research and Development Establishment (ARDE) and went on to work on some of the biggest defence projects of our country, including the development of safety arming mechanisms and fuses for guided missiles, aircraft bombs and mission critical systems for AGNI-II guided missile launcher. Responding to an international embargo on the import of slewing ring bearings, a crucial component of defence equipment, Shrimati Ramaswamy along with her team at DRDO were assigned to indigenously manufacture the same. Her professional training as a mechanical engineer helped to bring the project to a fruitful completion with the successful launch of AGNI-II in 1999. She thus brought to Aprameya Associates her special technological expertise for undertaking design and development of slewing ring bearings.

It is a privilege to have Mrs. Ramaswamy as the Chairperson of our Board of Governors. She has received national recognition for her technological expertise and professional achievements with honours such as the AGNI AWARD for excellence in self-reliance and IMM-CINNI AWARD for the best woman executive, DRDO awards for Best Projects and Outstanding Woman felicitation by National Council for Women in India (NCWI). She has been nominated by the Governor of Maharashtra to be on the Executive Council of Dr. Babasaheb Ambedkar Technological University at Lonere, Maharashtra.

Convocation is a very special day for all our graduating students. Ladies and gentlemen, I am sure the presence of these two distinguished engineers among us will motivate our young graduates to work hard to take the Institute and the country to new heights.

Before I present the highlights of our activities during the past one year, let me present to you a few special thoughts that have been the guiding principles on our path of leading this Institute to International level. The world is changing rapidly and so are we. In the national scenario, education, particularly technical and engineering education, holds high significance in fulfilling our dream of creating a prosperous, fair and egalitarian society. Our country has been constantly striving to improve its education system. Science and technology, teaching

and research, innovation and development are tools to transform our society from a newly-independent impoverished nation to a technological power house. Keeping this in mind, the Central Government has been constantly updating the country's educational policies, and in the recent past the Government of India has been seriously modernizing decades-old institutions to serve the present need of the country.

At NIT Rourkela, our effort has always been to be a visible part of this nation-building process. Our Vision which has to be realized in the near future is "to become an internationally acclaimed institution of higher learning that serves as a source of knowledge and expertise for the society and be a preferred destination for undergraduate and graduate studies." And our Mission is "to advance and spread knowledge in the areas of science and technology leading to creation of wealth and welfare of humanity." This vision and mission have been supported by well-articulated guiding principles which lay emphasis on affirmative action towards achieving an all-India character of faculty, staff and student population, a simple and organized personnel structure, and a transparent and decentralized administration. The institute has also given itself a quality policy, and a transparency policy which reflect its determination to give its constituents a truly participatory administration. Now, ladies and gentlemen, let me present a brief report on our activities over the past one year that has contributed to the growth of our institute in a holistic manner.

Teaching and Research are considered the backbone of any academic campus. Our spirit of expansion continues unabated. With such a mission in mind, we have constantly added new academic programmes that are relevant to industry and the society. During the year under review, a new multi-disciplinary programme was introduced in the area of Safety Engineering, which admits students with background in varied disciplines. This course is hosted by the Department of Chemical Engineering and operates in collaboration with an NGO- the Multi Disciplinary Centre on Safety, Health and Environment. More new M.Tech programmes like Tissue Engineering to be offered by the Department of Biotechnology and Medical Engineering and Plastic, Composites and Timber Engineering to be offered by the Department of Mechanical Engineering are in the pipe line. The Department of Earth and Atmospheric Sciences has started offering Master's programme in Applied Geology from the current academic year. In addition, the department will offer another Master's programme in Atmospheric Science and integrated Master's programme in Earth and Atmospheric Sciences in due course. The institute has joined the Joint admission process (JAM) of IITs to attract a superior student population to its 2-year M. Sc. Programmes. Twenty-six programmes of our Institute, 12 UG and 14 PG, have been accredited by the National Board of Accreditation for a period of five years in most cases.

Five years ago we had added the integrated M.Sc. programmes in Physics, Chemistry and Mathematics. I am happy to announce that the first batch of graduates from these programmes is receiving their degrees today. Two years ago we had started many new M.Tech programmes like Industrial Ceramics, Signal and Image processing, Power Electronics and Drives, Industrial Electronics and Communication and Networks and the scholars are graduating today.

The enhanced presence of international students from both SAARC and non-SAARC countries in our campus through exchange programmes administered by DASA, ICCR and MEA has

given the Institute an international environment. In addition to student exchange, the Institute has entered into bilateral and multilateral agreements with universities abroad for research collaboration. As an institute of national importance, in collaboration with other institutes of international stature, NIT Rourkela aspires to be counted among the leading technological universities of the world. With such a view and a constant effort to elevate the standard of our education system, we have signed MoUs with many institutes of international repute; among them are San Diego State University in California, University of Massachusetts at Lowell, and University of South Carolina at Columbia. MoUs have also been signed with University of Cape Town, South Africa, Mondragon Unibertsitatea, Mondragon, Spain and Konkuk University, Seoul, South Korea for collaboration in research activities. Collaborations have also commenced with The Netherlands Interdisciplinary Demographic Institute, Faculty of Automation and Computer Engineering of Novosibirsk State Technical University, Russia and Ngee Ann Polytechnic, Singapore. A large number of faculty members have visited foreign universities for collaborative discussion and joint research during the present academic year. During the period under review, the Furbright Programme and the Study of US Institutes Program funded by the Department of State, USA, have seen representation from our faculty. Further, our institute has enhanced international travel grants for doctoral students presenting papers in overseas conferences. This has resulted in substantial academic benefit to our research teams and in building up confidence of young researchers.

Such a progressive attitude does not come without a significant emphasis on the quality of education being imparted as well as constant up-gradation of the existing curricula. I am happy to share with this august audience that we scrutinize and upgrade our curricula on a regular basis. The curricula of both undergraduate and postgraduate programmes saw a major overhaul during the current academic year. Advice of experts from academia and industry, as well as input from alumni and students were incorporated in the process of revision. The new curriculum is simple in structure, incorporates both fundamental subjects and recent developments, emphasizes innovation and critical thinking, and works on a judicious compromise between core courses and open electives. The curricula and syllabi covering both in-depth analysis, interdisciplinary contents and hands on experience are expected to strengthen our academic programme. The professional courses not only reflect a strong Institute-Industry interface, but also provide a holistic education to the student. A new compulsory sessional course called Product Development Laboratory has been introduced for B.Tech students in the second semester and for M.Tech students in the second semester. This course is expected to teach techniques necessary for developing new engineering products right from conception to fabrication and testing. It is expected to instill an impetus to create new products in the minds of our budding engineers.

Industry-Institute interaction is seen as an important aspect of higher education, and cooperation between institutes of higher learning and industry has become a national mission. NIT Rourkela is committed to the success of this mission. As per this commitment, NIT has set up the TIIR (Technology Innovation and Industry Relations) Centre where industrial houses, specifically local industry, have been invited to set up their R&D centres on our campus. These centres, small or big, will foster industry oriented research by teams consisting of engineers from industry, faculty and students of the institute. To further strengthen the academia-industry connection, our students of Electronics and Communication Engineering,

Computer Science, Civil and Mechanical Engineering, under the supervision of faculty across the departments launched a Baloon satellite on November 16th. This Balloon satellite is just a precursor to the Nano-Satellite expected to be flown on a real rocket and more Balloon satellites for research on atmospheric conditions. The objective of this balloon satellite was to record various parameters like temperature, humidity and pressure as functions of altitude. The ground team made use of a local host server, which displayed all the data in the form of tables and graphs. It also had a tracker map. A GoPro Camera which was capable of taking high resolution photographs was a part of the satellite. Another team from across the departments is working towards construction of a Scanning Electron Microscope through student projects.

Taking the Institute's international connection to a new level, five students from NIT Rourkela have received the prestigious Erasmus Mundus scholarships to study in European Universities. I am also happy to announce that the Institute is a partner in yet another Erasmus Mundus Program called NAMASTE. Some more students will now get the opportunity to study in European Universities and bring new technologies to our country.

The positive contribution of our graduates to the society remains our strength. The most pleasing experience of today is that we are being recognized by the country's intelligentsia for this contribution. A national survey conducted by the prestigious EDU-RAND survey pick-a-college.com has placed NIT Rourkela in the 8th position among all engineering institutes of India, next only to the five old IITs, IIT Roorkee and IIT BHU. NIT Rourkela has also been placed in the 11th position in Data Quest CMR All India Best Tech School Survey 2013-14. Further, NIT Rourkela has been given the prestigious National Education Award 2014 for Outstanding Engineering Institute (East) by ABP News. The Award is in recognition of leadership development, engineering and technology, and industry interface. Our Institute has bagged this award for the third time in a row. While we take such honours as recognition of our work, we relentlessly strive to take our Institute to new heights without a trace of complacency.

Our students and faculty have also brought laurels to our Institute, adding to the prestige NIT Rourkela now has on the national and International scene. Prof. Bhaskar Kundu of the Department of Earth and Atmospheric Sciences has been awarded the ISES Order of Merit Award 2015 (Young Scientists) in the category of Seismotectonics, Earthquake Process and Geodetic Deformation (GPS and InSAR), for outstanding work in Earthquake Science by the Indian Society of Earthquake Science.

Our students Nishant Nihar and Wasim Sajjad participated in the Second Edition of India's most prestigious finance quiz, The Tata Simply Finance Quiz, conducted by Derek O' Brien & Associates in association with Zee TV and Tata Mutual Funds. Held in 8 cities across India, with a participation of over 12,000 teams (or 24,000 students), the quiz carries a cash reward of Rs 3.5 lakhs for the winners. They have beaten many prestigious Institutes on their way to winning the competition. They will be felicitated for this victory on January 25, 2014 by the IMFA group Chairman Dr. Bansidhar Panda who has been gracious to accept the honorary degree of D. Sc from NIT Rourkela in this convocation. The show has been on air on Zee Business, Zee News and Zee TV and has grabbed media attention all over Odisha.

Ladies and gentlemen, I proudly mention before you that in this Convocation, we are conferring the much-valued degrees of NIT Rourkela on 497 B.Tech, 106 M.Sc., 8 MA, 22 MBA, 456 M. Tech, 9 Integrated M.Sc (5 year), 39 M. Tech. (by Research) and 50 Ph.D. students. For the record, we may note that after being declared an Institute of national Importance in 2007, NIT Rourkela has produced 4649 Engineers and 191 PhDs. The numbers indicate a milestone in the growth of this institute.

The Biju Patnaik Central Library (BPCL) functional since 1965 has always been a pioneer in technical documentation and information management. The BPCL house-keeping operations are now fully automated with state-of-the-art tools that facilitate self check-in/check-out and automatic security system. The RFID system counts more than one lakh transactions (issue, return and renewal) in a year and approximately two lakh users visit the library annually. The BPCL presently has over 70,000 books, 18,000 back volumes of periodicals, and subscribtions to 76 Indian print journals, 28 full text and abstract databases which provide access to more than six thousand online journals including archive collections. During the current academic year, our library has added close to five thousand titles and ten thousand e-books. DSpace@NITR—the Institutional Repository has more than two thousand publications and ePrints@NITR—repository has close to four thousand dissertations. The BPCL also has a rich collection of IS codes, educational video courses and audio-visual materials. It organizes the Annual Book Fair facilitating easy access to and procurement of the latest publications for both the Institute and individuals. I am happy to announce that e-Thesis@NITR, the institutional Open Access theses repository of our Institute, has been ranked 5th among the top repositories in India and 345th among institutions around the world. This ranking is published in the 15th edition of Ranking Web of World repositories, an initiative of the Cybermetrics Lab, a research group belonging to CSIC (Consejo Superior de Investigaciones Científicas), the largest public research body in Spain. Similarly, DSpace@NITR—the repository of all intellectual output of NITR is put at the 15th place in India and 862nd in the world.

The Student Activity Centre of the Institute has been extremely active throughout the year organizing different workshops, events, competitions and fests through its four societies. The Technical Society with more than 25 satellite clubs is one of the most active societies under SAC. The Annual Techno-Management Festival, INNOVISION 2014 was conducted under the aegis of this society during October 31st to November 2nd 2014. The fest witnessed massive participation from various institutes across the country in its exhibitions, workshops, competitions, lectures, discussions and other technical events. Parliamentary debate and quiz contests were some of the main highlights.

The Games and Sports Society also gave our students ample opportunity to show case sports skills and physical fitness. This year's Annual Sports meet was conducted in March 2014. The Vikram Sarabhai Hall of Residence won the group championship in track and field events and M.V. Hall of Residence won the group championship in all games. The Inter-NIT sports meet on volleyball, hockey and swimming were organized by our institute also during March 2014. One hundred and fifty students from eight NITs participated in the tournament and it was a grand success. Our institute's men's teams bagged the first prize in volley ball, group championship in swimming and the runner-up prize in hockey. Our cricket, kabaddi, basketball, badminton, chess, and athletics (track and field) teams participated in Inter-NIT Sports meet

conducted by NIT Trichy. The Kabaddi team put up a good show by winning the first place. Women's Cricket and Chess teams won the runners-up prizes in respective events.

This year for the first time, the SPICMACAY State Convention was held in our Institute during January 2014. We had the proud opportunity of hosting such artistic luminaries as Sri Ramahari Das, Padmashri Geeta Chandran, Padmashri Vishwa Mohan Bhatt, Padmashri Kiran Seth and Shri G.S. Chaini. Workshops on various fields such as sand art, painting, dance and yoga were also conducted during this event.

The Literary and Cultural Society was equally active during the year under review conducting a wide variety of cultural events and a range of workshops. NITRUTSAV 2014, the annual festival of the Society, was organized in February 2014. Themed 'Modern Renaissance', this gala event attracted some 800 students, close to 400 being from outside our institute. A multi-ethnic cultural festival was held during October 2014. This festival gave an opportunity to students from the North, South, East and West zones of our country and those from abroad to present their distinctive cultural assets to the wider Institute community. The Institute also commemorated the foundation of the state of Odisha on Utkal Divas. Sahitya Akademi awardee Padma Shri Jayanta Mahapatra graced the occasion as the Chief Guest.

The International Students' Meet was organized during 7th-9th March 2014 in which around 500 international students participated in various competitions and workshops covering visual arts, performing arts, sports and literary activities. It served as a platform for students from Dubai, Singapore, Nepal, Iran, Indonesia and Germany to interact with our students and share their cultural heritage and technological advances over a period of three days. A performance by Padma Shri Kavita Dwivedi, a noted Odissi dance exponent, was one of the high points of this meet. The crown of this Society's activity was the CELEBRITY NITE held on 30th March 2014, at Dillip Tirkey Stadium where the noted singer Sonu Nigam left the five thousand strong audience spell bound. Last but not the least, the Film and Music Society (FMS) screened 25 movies throughout the year for the entertainment of students, faculty, staff and their families.

Our students have also won laurels in student fests across the country. On the cultural side, the Heartbeats club made us proud when they bagged the first prize in the Spring Fest 2014 of IIT Kharagpur in the Wild fire Eastern Music competition: "Sargam". The group from the Pantomime Drama club of our institute got the first prize in the dramatics event "Curtain Call", an on the spot drama competition, also a part of Spring Fest 2014 of IIT Kharagpur. They finished second in Aaghaz, a street play completion held at XIMB Bhubaneswar. The team was also a champion at the State level theatre festival held at Puri. The institute dance team was champion in Duet Dance in Mood Indigo held at IIT Mumbai and a champion in group dance in the Spring Fest of IIT Kharagpur. The SAE Team Roadrunner was placed 2nd among 100 teams across the country in the engineering design category along with a trophy in SUPRA SAE event organized at Madras Motor Sports Club in Chennai in July 2014. They also stood 6th among 12 teams that qualified for the final race.

The NITR Student chapter of ASME International was ranked 26th in HPVC-East Competition held in Florida, USA and was ranked 24th out of the 40 teams that participated in National Level HPVC (Human Powered Vehicle Challenge) hosted by IIT Delhi and DTU in August 2014.

ASME-NITR sent an eight member team to participate at the Students' Professional Development Conference at BITS Pilani and came out at fifth position among fourteen teams from around the country.

Ladies and Gentlemen, sponsored research and industrial consultancy are hall marks of any institution of higher learning. NIT Rourkela has traditionally been known as a leader in this aspect among comparable institutions across the country. To present an overview, a total of 50 consultancy projects with a gross value of nearly Rupees two Crores and 141 sponsored projects with a gross value of 17 crores are being pursued in different departments of our Institute. During the calendar year 2014, the Institute has received sanction of Forty-one sponsored projects with a total value of 10.12 crores. It has also secured 20 consultancy projects valued at INR 43.74 lakhs. High ticket sponsored projects include 'Fabrication and Application of Functionalized Magnetic Carbon Quantum Dots (MCQD) in Tumor Therapy' worth INR 37.35 lakhs, 'Synthesis Characterisation and Reactivity of Transition Metal Clusters and their potential towards Metal Nanoparticles' worth INR 38 lakhs, 'Development of reactions of stereoselective enamides and enol-esters' worth INR 40.60 lakhs, all under the Department of Chemistry, and 'Sr-M hexagonal ferrite for high frequency inducator application' worth INR 41.07 lakhs under Ceramic Engineering from SERB. The institute also got infrastructure grants from FIST-DST for the Metallurgical and Mining Engineering Departments. An Innovation and Entrepreneurship Development Centre has been set up by the School of Management with sponsorship of NSTEDB and DST with a value of INR 47 lakhs. Sponsored Research and Consultancy Projects worth several crores are in various stages of processing.

Short term courses, conferences, seminars and workshops are important academic activities that foster interaction among scientists and engineers, and increase visibility of the Institute among its scientific peers. The Institute has taken initiatives towards hosting of academic conferences and inviting scientific workers from across the country to our campus. During the calendar year 2014, the Institute has conducted 35 short-term courses and 8 conferences / seminars / workshops. All these courses were well attended by researchers from several Institutions across and beyond the country. For instance, the Department of Mining Engineering hosted an Executive Development Programme on Coal Mining for officials of Barapukuria Coal Mining Company Limited (BCMCL), Bangladesh. It was a 15-day programme for a team of executives on special aspects of Coal Mining.

Innovation in Science Pursuit for Inspired Research (INSPIRE) is a flagship programme of the DST which has five components covering entire range of education and research from class 6 to postgraduate stage of a student. NIT Rourkela hosted the INSPIRE science camp between November 30 and December 5 2014 for senior secondary students which benefitted over 350 students drawn from high schools across the state of Odisha. The programme also gave our institute the privilege of hosting senior scientists from several well-known scientific organizations of our country.

Continuing on the path of our constant pursuit of excellence, the institute has filed a patent for a **portable washing machine,** claimed to be the smallest functional washing machine of the world. Another patent and design registration has been applied for a **portable water filtration and bottle filling system.**

An institution of higher learning needs superior scientific infrastructure to carry out world class research. This year the Chemical Engineering Department has procured a 300 kV field emission electron gun High Resolution Transmission Electron Microscope (HR-TEM) with cryogenic attachment from FEI of cost approximately INR 8.5 crore. The instrument can go up to 0.2 nm point resolution, which will be extremely useful for nano-dimensional research, specifically for the characterization of both nanomaterials and biological samples. The Department has also invested in Gas chromatograph with mass spectroscopy. Many new laboratories like Catalysis Research Laboratory, Bio-energy Laboratory, and Computational Fluid Dynamics Laboratory to name a few have been set up as well in the new Chemical Engineering building. The Metallurgical and Materials Engineering Department procured a Dynamic Mechanical Thermal Analyzer at a cost of INR 35 lakhs. The Department also set up a new Dynamic Mechanical Thermal Analyzer Laboratory and a Light Metals and Composite Laboratory Funded by the TEQIP programme, the Department of Biotechnology and Medical Engineering has procured a Force Plate 3D motion analyser worth INR 39 lakh. A Wind energy control system worth about INR 51 lakhs and an experimental setup for studying distribution of solar power in 100kW scale worth INR 1.4 crore were procured by the Electrical Engineering Department under the aegis of TEQIP. Also under this grant, the Mechanical engineering Department purchased a CNC Drilling machine and a Dynamometer for the milling machine.

A large computing and communication infrastructure is the backbone of a modern educational institution. The Institute's Computer Centre has added 3 more computing laboratories, in the new Lecture Hall complex. All the laboratories have been given backup power supply from the 40 kVA Emerson UPS as well as from diesel generator set. After the addition of the new computing infrastructure, laboratory classes for B.Tech students such as Computing Lab, Machine Drawing and Solid Modelling and Computer Work on Numerical Methods are being conducted at the new laboratories. The Computer Centre procured software like Turnitin anti-plagiarism web tool, Adobe e-learning suite, IBM SPSS software, and Academic site license for Labview software among others. Software and hardware for virtual classrooms have been procured at a cost of about 50 lakhs to initiate and encourage the process of creating e-learning content among our faculty.

Ladies and gentlemen, I take pride in saying that our Training and Placement Centre has untiringly coordinated with several industries and academic institutions to provide quality placement to our graduates, postgraduates and doctorates both inside the country and abroad. During the academic session 2013-2014, 80 reputed companies visited our Institute for campus placement and offered more than 700 jobs to our students. The Major PSUs who participated in our campus recruitment programme during 2013-14 include Coal India Limited and C-DOT. The other recruiters include software majors Microsoft, Oracle, Samsung, Sony, SAP Lab and Amdocs and core companies such as Tata Steel, Sesa Sterlite, Hindalco, JSL, L & T, ACC, Adani Mining, ABB, Unisys , Mu Sigma, SONY Ericson and automobile manufacturers such as Honda 2-Wheelers, Maruti-Suzuki, Mahindra & Mahindra, Hero MotoCorp and Bajaj Auto. During the current academic session, 2014-15, our institute has already attracted 64 companies for recruiting our students through campus placement. More than 689 jobs have been offered till date. The Training and Placement Centre of our Institute had also arranged SIRE training programme for our students in reputed organizations and industries within and outside the country during the last summer vacation. During 2013-14, 722 pre-final year

B.Tech students and 3rd Year Dual Degree students were placed in 216 organisations/industries and MBA students were placed in 12 industries. Twenty seven of these students were also sponsored to international universities and industries abroad for a 2-month summer internship programme. A regular feature of our training programme for undergraduate students also includes short study tours to nearby industries and appropriate organisations. This helps the students to get a feel of the industry and their practices, and enriches our curriculum. Twenty-nine such industrial tours were conducted during the academic year 2013-14.

Commensurate with the Mission and Vision of NIT Rourkela, I take special pride in announcing that the non-teaching employees of our institute have contributed their share to the growth of the institute in a very progressive manner. The most notable among them is automation of HR and Pay Roll systems including online submission of Annual Performance Appraisal and online File Tracking Systems. Further, new policies such as citizen charter, record retention schedule and student medical policy have been implemented. During the period under review, 30 non-teaching officers were sent for training abroad through TEQIP-II and more than 45 employees were nominated for different training programmes organized by various professional organizations.

The Institute's Health Centre has now got a face lift, with three full-time doctors on duty, it is able to provide better service to the campus community, particularly with the introduction of direct on-line prescription. Reputed senior physicians are also visiting the Health Centre on regular basis. The Staff Club has been made fully operational and has conducted many programmes including a Yoga Training session.

As you must have observed by this time, NIT Rourkela now has a beautiful and scenic campus providing the right environment for scholastic pursuits. This is largely due to the sincere efforts put in by the entire campus community. The enhancement of student strength has led to increased demand for power and water. The main electricity distribution system has been upgraded from 11 kV to 33 kV. A new Ring Main Power Distribution scheme has been completed. The project involved setting up of ten 33/0.4 kV interlinked transformers around the institute campus. In addition to the existing connection from the WESCO power supply, a 12 km long dedicated 33 kV line from the 132 kV trunk line at Chhend has been completed. With a dedicated power line available we propose to use power judiciously and bring an end to the black outs that not only disrupt classes but also pose danger to the expensive analytical equipment that our Institute has procured. We also propose to supplement grid power with a mega watt capacity, solar photovoltaic power station on campus which will not only be eco-friendly but will ensure an end to power cuts during day light hours.

A new water supply system is under construction incorporating an on-campus water treatment plant to cater to the increased demand of water. We are grateful to the Government of Odisha for agreeing to set up a new 300 mm pipeline from Koel River with associated intake well and pumping station delivering 5 million litres of raw water per day. The Institute is building the filtration plant. The complete system is expected to be operational before May 2015.

The twin building for Electrical Sciences which, inaugurated in 2012, is presently being used by the Departments of Electrical Engineering and Electronics and Communication Engineering. The old Electrical Engineering Annexe building is housing the new Department of Planning

and Architecture. The renovation and expansion work of Chemical, Mining, Ceramic, and Metallurgical and Materials Engineering departments has been completed. Work has been initiated towards a brand new "Data Centre" for the central computing facility which will house not only a large set of servers, but also the 2 Teraflops High Performance Computing Facility. The construction of the TIIR (Technology Innovation and Industry Relations) Centre, the corporate link of the campus is almost over. Considering the increase in student intake, a new undergraduate laboratory complex is being planned. This complex will house all first year undergraduate laboratories over a building space of 16000 square meters.

A new and ambitious phase of construction totalling a value over Rs. 300 crore has been taken up to cope with increased demand of academic, hostel and residential buildings. This consists of construction of a 1000 Seated Hostel, Lecture Hall Complex No-2, Mechanical Science Building, Golden Jubilee Building (13 storied and Basement) and Faculty Residence (3BHK-72 Flats and 2BHK-48 Flats). All these construction assignments are going on in full swing and are expected to be completed by December 2015 except the Golden Jubilee Building which is likely to be completed by June 2016. Construction of a separate new Planning and Architecture Department building costing about INR 40 crores will be taken up shortly. Further, to cope up with the increased demand of residential buildings for the married research students, it is proposed to build another 150 flats. In addition, the Campus School has also been renovated to meet the increased expectation of the community. Recently, the Govt of Odisha has allotted a piece of land for our Institute's Extension Centre at Bhubaneswar; the construction of the same will be initiated soon. Further, it is also planned to renovate the existing academic buildings wherever necessary.

The groundwork for a centralized air conditioning system for academic buildings has already been laid for which equipment have been installed, chilled water pipes have been laid and other works are in progress. This is likely to be commissioned by March 2015. Large Dining halls of Hostels are being provided with forced air ventilation systems for better comfort. For better connectivity to academic areas, hostels and campus areas, extensive road works including widening have been completed.

Interference by outsiders and lack of proper communication with the city have always remained a matter of concern for the residents and visitors to the NIT campus. The State Government has taken up a project to widen and improve the road connecting our campus to the city of Rourkela, half of which, as you may have already observed on your way to our campus, has been completed and work on the other half is under way. The Government and the Rourkela Steel Plant are also extending their support to us towards further expanding the boundary to meet the potential of becoming a larger institute in future.

It is important to note that alumni of NIT Rourkela have excelled in almost every walk of life – industry, academia, research, social and public life. The Institute appreciates the glory they have brought to their alma mater. The Centre for Alumni Relations has instituted the Mrs. Shanta Jain prize for the best product-oriented project by an NITian with contribution from Shri Pramod Kumar Jain, a 1974 batch alumnus in Mechanical Engineering. Alumni from across the globe are coming forward to support the Institute and we record our appreciation for this wonderful gesture.

It is a matter of immense pride that the Business Standard Awards for corporate excellence in 2014 were won by two of our alumni- Sri C.P. Gurnani, a 1981-batch B. E. in Chemical Engineering and Sri. R.N. Nayak, a 1977-batch B.E. of Electrical Engineering, both winners of Institute Distinguished Alumni Awards. Tech Mahindra Managing Director and CEO C. P. Gurnani was voted Top CEO of the year. Under Shri Gurnani, popularly known as CeePee, Tech Mahindra has very successfully demonstrated how a company can create long-term strategic value through acquisitions. Today, TechM is among India's 'Big Five' software service exporters. The company ended 2013-14 with year-on-year sales growth of over 17 per cent (in US dollar terms), the highest in the industry. Shri Gurnani, who has been with the company for many years now, played a pivotal role in the three-year transformational journey of Mahindra Satyam and the eventual merger between the two.

Shri R.N. Nayak who is Chairman and Managing Director of the public sector giant Power Grid Corporation has received recognition in the category of Star PSU of the year. One of the fastest-growing electricity utility companies, PowerGrid has shown compound annual growth rates of 22 per cent in sales and 18.6 per cent in net profit, over the past three years - a period when companies in the power and other infrastructure sectors faced huge problems. The company even found a place in PLATTS Top Growing Global energy company list during 2014. Despite volatile market conditions, PowerGrid was able to raise funds last year, led by its balance sheet strength and project profiles. A large part of the credit goes to its CMD Sri R.N. Nayak, who has been with the company for about 30 years now. On behalf of the NIT community I congratulate our worthy alumni and wish them success in further raising the standards of their respective companies.

The Institute has set up an official alumni network not only to provide a forum for the alumni to share nostalgic moments with their classmates and hall-mates, but also to lend a finger to guide the next generation of students. Every student who ever graduated or shall ever graduate with any degree in any discipline is automatically a member of this network. I call upon all alumni including those who will receive their degrees in this Convocation to work for the alumni network, for fellow alumni and for welfare of current and future students.

Our Institute has been bestowing the "Distinguished Alumnus Award" on alumni who have made their alma mater proud by their professional and social achievements. This year, this award will be bestowed on four unique individuals. I record my personal appreciation to all of them for accepting this award from the institute. Three of these worthy individuals are here today to honour our institute. These eminent persons, who have contributed immensely in their respective professions are Prof. Prabhakar Singh, 1973 batch B.Sc.(Engg) in Metallurgical Engineering, Director, Centre for Clean Energy Engineering, University of Connecticut, USA, Sri Gopi Kant Ghosh, 1969 batch B.Sc.(Engg) in Chemical Engineering, Retired Joint CEO, Khadi and Village Industries Commission, Govt of India, Sri Sashi Shekhar Mohanty, a 1978 batch M. Tech. in Machine Design and Analysis from the Department of Mechanical Engineering, presently serving as Director (Technical) in the public sector giant. the Steel Authority of India Ltd. and Sri Pramod Kumar Jain, 1974 batch B.Sc.(Engg) in Mechanical Engineering, Executive partner of Kailash Rubber Industries, Agra who has also instituted the best product oriented project award in the name of Mrs. Shanta Jain. Our young graduates are certainly inspired by the professional dedication of these four pioneers.

I am happy to share with this august audience that this year our Institute has added a very unique individual to our alumni list. He is none other than Dr. E. Sreedharan, the Legendary "Metro Man" who received the Doctor of Science (*honoris causa*) degree from former BOG Chairman, Shri B. S. Sudhir Chandra in a special convocation held at Bangalore on 13 April 2014. We are indeed proud of our association with this engineering and management genius.

Convocation is a special event in the academic calendar of any Institute. It can indisputably be considered a unique event in the life of its graduating students. We hope today's event is one that all our graduates, postgraduates and doctorates will treasure along with all their memories of the years they spent in this Institute. I extend my heartiest congratulations to all of them, with a special word of felicitation to those who have received awards and medals. I feel honoured to announce the names of the students who, as recipients of gold and silver medals for their academic excellence, have made their alma mater really proud of them. I personally congratulate the five Institute Gold Medal winners: Miss Susnata Roy of the Department of Computer Science and Engineering, the Best Graduate of the year, Miss Narapaneni Ragasudha of the Department of Electronics and Communication Engineering, the Best Post Graduate, Miss Bithika Jena of the School of Management for Best MBA, Miss Rutusmita Mishra of the Life Science Department for being the best among M.Sc. and M.A. students and Miss Kumari Swarnima of Chemistry for being the topper in the first ever batch of Integrated M.Sc programme which was started in 2009. I also congratulate Sri Prakash Sarangi, a graduate of the Department of Mechanical Engineering, who has been awarded the gold medal for the Best B.Tech project of 2014. I also take this opportunity to congratulate the winners of the Institute Silver Medals for their hard work in their respective specializations which brings them these laurels today.

Our Institute has given you the breadth and depth of education required for you to move forward in life. We hope that this education will be used to facilitate the development of our society of which you are an integral part and to help India in her march towards its position among the best countries of the world in terms of infrastructure, education, health care and economic wealth. The attainment of this coveted degree puts on your young shoulders the burden of carrying out your professional duties with the greatest standards of honesty, sincerity and integrity. We are all looking forward with great hope to see the achievements being made by our students in future. Nelson Mandela rightly said, "Education is the most powerful weapon which you can use to change the world."

I extend my congratulations to the proud parents who will remember this day with as much pleasure, if not more so, as their graduating children. I would also like to share this moment of joy and pride with the parents who could not make it here and are awaiting a phone call from their worthy children. I would like to say here that your child is an exceptional person who has proven his or her worth by earning a degree from this esteemed institution. This degree opens up for him or her plethora of avenues in a wide variety of fields. Some of you will aspire to be entrepreneurs, some managers, some civil servants, some will wish to enter academics and others will prefer to work in the industry. The prospects are many and the future certainly bright. Moreover, in this age of competition, you need to continuously learn new skills to be successful in your professional career. Achievement and output require hard work and total commitment. We wish all of you the very best in your chosen profession. With

sincerity, dedication and honesty, there can be no stopping of your march to success and happiness. As said by Dr. A. P. J. Abdul Kalam, who graced this Institute some five years ago: “My message, especially to young people is to have courage to think differently, courage to invent, to travel the unexplored path, courage to discover the impossible and to conquer the problems and succeed. These are great qualities that they must work towards. This is my message to the young people.”

Our students are entering the job market at a time when our country is showing an economic upturn. The professional challenges are tough and the job market is competitive. I would like to advise all my dear students that there is no alternative to hard work. “Success” comes before “work” only in the English dictionary; the real life scenario being the reverse. In life, there may be many ups and downs, but I am confident that your education at NIT Rourkela has given you the capacity and the perseverance to stand up to any exigency and to do your bit in improving the lives of a thousand less-gifted individuals around you. Whatever you do in the future, whichever vocation you choose, I have no doubt that you will look back to the years you spent in this institute with nostalgia and fond memories of academic and extra-academic activities and life in the hostels. I am certain that no matter where you go, you will carry the mark of excellence that NIT Rourkela has bestowed upon you. Through the coveted NIT certificate, I charge every recipient of the degree with the responsibility of spreading the religion of technology in an effort to make its fruits available to the poorest of the poor so that he or she shall no longer stay poor.

I close my speech with a quote by the Father of the Nation Mahatma Gandhi: “Be the change that you want to see in the world.”

JAI HIND

Prof. Sunil Kumar Sarangi

Fitrst Special Convocation

A special Convocation of NIT Rourkela (the first of this kind of NIT Rourkela) was held on 13 April 2014 at the Silicon Valley of India, Bengaluru. The meet was organized by NITRAA, Bengaluru Chapter, at NGV Club on 13 April 2014. Shri B. S. Sudhir Chandra, the then Chairman, BOG, NIT Rourkela, Prof. Sunil. Kr. Sarangi, Director, Prof. K. K. Mohapatra, Dean (Academic), Prof. S. K. Patel, Department of Mechanical Engineering and Shri S. K. Upadhyay, Registrar, attended the meeting. **Doctor of Science *(honoris causa)* from NIT Rourkela was awarded to eminent Engineer Padma Vibhushan Dr. E. Sreedharan, "Metro Man," for his significant contribution for the development of Metro Railway system in the country.**

Doctor of Science Degrees

PADMA SHRI DR. SRIKUMAR BANERJEE

Padma Shri Dr. Srikumar Banerjee *in recognition of his significant contribution to the fields of Metallurgical Engineering and Nuclear Sciences in India.* Prof. Srikumar Banerjee is Homi Bhabha Chair Professor at Bhabha Atomic Research Centre (BARC), Mumbai and Chancellor, Central University of Kashmir, Srinagar. He served as the Chairman, Atomic Energy Commission and Secretary to the Government of India, Department of Atomic Energy during 2009-2012 and has been Director, BARC during 2004-2010. He is currently holding Distinguished Visiting Professor positions at Indian Institute of Technology Bombay, Indian Institute of Science Bangalore and University of Delhi.

DR. BANSIDHAR PANDA

Dr. Bansidhar Panda *in recognition of his pioneering contribution to growth of ferroalloy industry and to social and cultural upliftment of the society.* Dr. Bansidhar Panda is a renowned research scientist, and he set up Indian Metals and Ferro Alloys Ltd (IMFA) in 1961.

PADMA SHRI PROF. MANINDRA AGRAWAL

Padma Shri Prof. Manindra Agrawal *in recognition of his pioneering contribution to the field of Computer Science and Engineering and Engineering Education in India.* Prof. Manindra Agrawal is a professor at the Department of Computer Science and Engineering and the Dean of Faculty Affairs at the Indian Institute of Technology Kanpur. He is also the recipient of the first Infosys Prize for Mathematics and the Shanti Swarup Bhatnagar Award in Mathematical Sciences in 2003. He has been honored with Padma Shri in 2013.

DOCTOR OF PHILOSOPHY

Department & Candidate's Name	Title of the Thesis
Biotechnology & Medical Engineering	
AKALABYA BISSOYI	Cryopreservation of Mesechymal Stem Cell and Tissue Engineered Constructs Using Non-Toxic Cryoprotective Agents
NILADRINATH PANDA	Development of ElectropunNanofibrous Silk Fibroin Based Scaffold for Bone Tissue Engineering
NADEEM SIDDQUI MOHAMMAD ABDUL	Development of Chitosan Based Composite Matrices for Bone Tissue Engineering
Civil Engineering	
SANTOSH KUMAR NAYAK	Seismic Response of Partially Filled Rectangular Liquid Tank with Internal Objects
PRABIR KUMAR MOHANTY	Flow Analysis of Compound Channels with Wide Flood Plains
PRADYUT KUMAR MUDULI	Evaluation of Liquefaction Potential of Soil Using Genetic Programming
UTTAM KUMAR MISHRA	Vibration, Buckling and Dynamic Stability of Stepped Beams with Multiple Transverse Cracks
JANHABI MEHER	Rainfall and Runoff Estimation Using Hydrological Models and Ann Techniques
MEENA MURMU	Studies on Physical, Chemical and Mechanical Properties of Lime Activated Slag Cement
SOMESH JENA	Environmental Flow Assessment and Water Quality Analysis in Mahanadi River System, India and their Impact
Chemical Engineering	
SACHIN KUMAR	Conversion of Waste HDPE into Liquid Fuels
K JAGAJJANANI RAO	Studies on Green Synthesis and Applications of Some Metallic and Non-metallic Nanoparticles in Aqueous Media
Ceramic Engineering	
SUBRAT KUMAR MOHANTY	Tailoring of Ni: 8YSZ Cermet via Solution - Based Syntheses
Computer Science & Engineering	
HUNNY MEHROTRA	On the Performance Improvement of Iris Biometric System
SWATI VIPSITA	Protein Superfamily Classification using Computational Intelligence Techniques
ALEKHA KUMAR MISHRA	Node Replica Detection in Wireless Sensor Networks
NIRANJAN KUMAR RAY	Techniques to Enhance the Lifetime of Mobile Ad Hoc Networks

BIBHU DATTA SAHOO	Dynamic Load Balancing Strategies in Heterogeneous Distributed System
MANMATH NARAYAN SAHOO	Design and Evaluation of Online Fault Diagnosis Protocols for Wireless Networks

Chemistry

ASHIS KUMAR JENA	Cu/Fe-Catalyzed C-C, C-N and C-S Cross-Coupling Reactions: Synthesis of Biologically Important Heterocycles
SUBHASHREE PRIYADARSINI DASH	Nonoxide and Vanadium Complexes Featuring O- and N-donor Ligands in Relation to Biological and Catalytic Activities

Electronics & Communication Engineering

KANHU CHARAN BHUYAN	Development of Controllers' using FPGA for Fuel Cells in Standalone and Utility Applications
RUNA KUMARI	Investigations on Possible Realization of Log Periodic Dielectric Resonator Antenna
YOGESH KUMAR CHOUKIKER	Investigations on Some Compact Wideband Fractal Antennas
NATARAJAMANI S	Some Studies On Design of Planar Antennas For UWB Applications
SANTOS KUMAR DAS	Quality of Service Estimation Techniques for Optical Virtual Private Network over WDM/DWDM Network

Electrical Engineering

KALAPRAVEEN BAGADI	On Development of Some Soft Computing based Multiuser Detection Techniques for SDMA-OFDM Wireless Communication System
SUBRAJEET MOHAPATRA	Hematological Image Analysis for Acute Lymphoblastic Leukemia Detection and Classification
RASESWARI PRADHAN	Development of New Parameter Extraction Schemes and Maximum Power Point Controllers for Photovoltaic Power Systems
MADHU SINGH	Study and RTDS Implementation of Some Controllers for Performance and Power Quality Improvement of an Induction Motor Drive System

Mathematics

SMITA TAPASWINI	Numerical Solution Of Fuzzy Differential Equations
DIPTIRANJAN BEHERA	Numerical Solution of Static and Dynamic Problems of Imprecisely Defined Structural Systems
ASHRITA PATRA	Study of Reactor Constructive Model and Analysis of Nuclear Reactor Kinetics by Fractional Calculus Approach

BISWAJIT RANSINGH	Vogan diagrams of Hyperbolic Kac-Moody Algebras, Kac-ModdySuperalgebras and Some Studies on root system of Lie Superalgebras
BIBEKANANDA BIRA	Lie Group Analysis and Evolution of Weak Waves for Certain Hyperbolic System of Partial Differential Equations
SANDHYA RANI MOHAPATRA	Adams Completion for CW-Complexes

Mechanical Engineering

DEBASMITA MISHRA	A Study on Thermal and Dielectric Characteristics of Solid Glass Microsphere Filled Epoxy Composite
SHAILESH KUMAR DEWANGAN	Multi-Objective Optimisation and Analysis of EDM of AISI P20 Tool Steel
R PRAKASH	Experimental Studies on a DI Diesel Engine Fueled with Jatropha Methyl Ester-Wood Pyrolysis Oil Emulsions
PRITINIKA BEHERA	Experimental Studies on Utilization of Used Transformer Oil as an Alternative Fuel in a DI Diesel Engine
BALAJI KUMAR CHOUDHURY	Design and Construction of Turboexpander Based Nitrogen Liquefier
MANAS RANJAN SINGH	Study on Flexible Flow Shop and Job Shop Scheduling Using Meta-heuristic Approaches
JAYANTA KUMAR POTHAL	Intelligent Motion Planning and Obstacle Avoidance for Multiple Mobile Robots in Highly Cluttered Environment
VIVEK MISHRA	Physical, Mechanical and Abrasive wear Behavior of Jute Fiber Reinforced Polymer Composites

Metallurgical & Materials Engineering

KHUSHBU DASH	Processing and Characterization of Cu-Al_2O_3 and Al-Al_2O_3 Composites: An Evaluation for Micro- and Nano-particulate Reinforcements

Mining Engineering

HRUSHIKESH NAIK	Evaluation of Flow and in-Place Strength Characteristics of Fly Ash Composite Materials
NIRLIPTA PRIYADARSHINI NAYAK	Characterisation Driven Processing Of Indian Sub-Marginal Grade Of Iron Ore For Value Addition

Physics

PUNYATOYA MISHRA	Lead Free Ceramic-Polymer Composites for Embedded Capacitor and Piezoelectric Applications
SUBRAT KUMAR KAR	Structural and Electrical Studies of $Ba(FeNb)_{0.5}O_3$ Based High Dielectric Constant Materials Synthesized by Conventional and Microwave Processing Techniques
ARPNA KUJUR	Effect of Various Pinning Centers on Electric and Magnetic Transport Properties in $YBa_2Cu_3O_{7-ä}$

MASTER OF TECHNOLOGY (BY RESEARCH)

Department & Candidate's Name	Title of the Thesis
Biotechnology & Medical Engineering	
DIBYA DEVISMITA	Numerical Modelling of Cell Dehydration during Cryopreservation
Civil Engineering	
MRUNMAYEE MANJARI SAHOO	Analysis and Modeling of Surface Water Quality in River Basins
MOHITA MOHAN GARNAIK	Effects of Highway Geometric Elements on Accident Modelling
BIBHUTI BHUSAN DAS	Characterization of Ferrochrome Slag as an Embankment and Pavement Material
MADAN MOHAN PADHI	Evaluation of Emulsion Based Warm Mixes For Paving Applications
DEBRANJAN SAR	Seismic Evaluation of Un-Reinforced Masonry Structures
RIJWANA PARWIN	Assessment of Water Resources & Management Strategies of Brahmani River Basin
Chemical Engineering	
VISHAL KUMAR VERMA	Microbial Degradation Of Acetylsalicylic Acid And Ibuprofen
CHINMAYEE PATRA	CFD Modelling for Fluidized Bed Biomass Gasification
SHIVANI	Vapor-Liquid Equilibrium and Thermodynamic Property Estimation of (CO_2 - alkanolamines-water)System using Molecular Modeling and Validation with Experiments.
V BALAJI PATRO	Bio-Transformation of Natural Oil into Industrially Useful Product (Lauric Acid)
PATIL SANGRAM SHAMRAO ASHADEVI	Biodegradation Study of Phenol by Burkholderia sp.PS3 and Bacillus Pumilus OS1 Isolated from Contaminated Soil
NAKADE PRIYA GANESH	Phase Transfer Catalyzed Reaction for Synthesis of Sulfides and Disulfides Using Hydrogen Sulfide
SHIBASHIS SUJIT SAHOO	Evaluation of Enzyme Mixture for Enzymatic Hydrolysis and Ethanol Production from Wheat Straw
ARITRI GHOSH	Synthesis of Gold-Iron Oxide Composite Nanoparticles Using Tea Extract
SIDHARTH SANKAR PARHI	Gainful Utilization of Spent Pot Lining - A Hazardous Waste From Aluminum Industry
HARJEET NATH	Studies on Abatement of Fluorides using Fluidized Bed Reactor: Aspen Plus Simulation
ANIS BAKHSH	Modeling And Simulation Of Forced Circulation Evaporation Crystallizer
Computer Science & Engineering	
RAHUL RAMAN	Study on Models for Smart Surveillance through Multi-Camera Networks

RAVI KUMAR	Comparative Analysis of Hashing Schemes for Iris Identification Using Local Features
ASHISH KUMAR DWIVEDI	Formalization and Model Checking of Software Architectural Style
SUCHISMITA ROUT	Techniques to Enhance the MANET Life time.
SHREE PRAKASH	Gesture Based Numeral Extraction and Recognition

Electronics & Communication Engineering

JAGANATH PRASAD MOHANTY	VLSI Implementation for Security Paradigm of AES including DPA Attacks

Electrical Engineering

SOUMYA RANJAN MAHAPATRA	Control Algorithms for A Two Tank Liquid Level System: An Experimental Study
AMRIT ANAND MAHAPATRA	Improved Braking Performance of An Electric Vehicle by Integrating Plus Braking with Regenerative Braking

Mechanical Engineering

SANTOSH KUMAR SAHU	Development of Decision Support Systems Towards Supply Chain Performance Appraisement
SUMAN CHATTERJEE	A Study on Parametric Appraisal of Drilling on Bio-Compatible Materials.
RITANJALI SETHY	Experimental Investigation and Optimisation in EDM Process of AISI P20 Tool Steel
MADHUSMITA SAHU	A Study on Thermal Characteristics of Polymer Composites Filled with Micro-sized TiO_2 Particles
VIGNESHWARAN K	Vibration Analysis of Beams With Breathing Crack
BRUNDABAN PATRO	Eulerian Modeling of Gas Solid Multiphase Flow in Horizontal Pipes
KATARIYA PANKAJKUMAR VAIKUNTHBHAI	Free Vibration and Buckling Behaviour of Laminated Composite Panel under Thermal and Mechanical Loading
MOHD. WASEEM SIDDIQUI	Experimental Studies on Low Temperature Cooler for Diffusion Pump Baffle Cooling Using two Stage Vapor Compression Refrigeration (VCR) cycles
KRISHNA KANT PANDEY	Design and Analysis of Intelligent Navigational Controller for Mobile Robot
RAJIV KUMAR YADAV	An Experimental and Simulation Study on Parametric Analysis in Turning of Inconel 718 and GFRP Composite Using Coated and Uncoated Tools
P.M.G. BASHIR ASDAQUE	Vibration Analysis of Non-Uniform Shaft-Rotor System

Metallurgical & Materials Engineering

DAMANAPETA NARASIMHACHARY	Effect of Laser Welding Parameters on 6061 Aluminum Alloy

Mining Engineering

SANJAY KUMAR SINGH	Strata Control Technology for Mass Exploitation of Underground Coal Deposits: A Case Study of Continuous Miner

MASTER OF TECHNOLOGY

BIOTECHNOLOGY & MEDICAL ENGINEERING

Biomedical Engineering

ALANKAR AGRAWAL
CHANDRA PRAKASH
DEBESHI DUTTA
DIPANSHU BHARDWAJ
MD SARFARAZ ALAM
MOHIT GANGWAR
MUTTINENI VENKATESWARA RAO
PRASHANT DUBEY
PROTIMA NOMO SUDRO
RAVI DADSENA
SAIKAT SAHOO
SHARANYA SANKAR
SHUSMITA KUMARI
SITIPRAGYAN SATAPATHY
SUSANTA BASURI
VIKAS KUMAR ANAND

Biotechnology

APARNA TEWARI
ARUN KUMAR MAURYA
GEETANJALI HUBLI
JYOTI BALA
KARTHIC K
KIRAN YELLAPPA VAJANTHRI
NIRAJ BABU
PRERAK GUPTA
RITIKA CHAUHAN
SAKHARE PAYAL NARESH SANDHYA
SENGGAM WAKHET SINGPHO
SHARMILA D
SHRUTIJA PANDEY
SHUMAILA KHALID
SOMARAJU SINGOTHU
SOMYA ASTHANA
SRUTHI UNNI
TARUN AGARWAL

CIVIL ENGINEERING

Geotechnical Engineering

APARUPA PANI
BANDELA SRIKANTH
BARADA PRASAD SETHY
GANESH R
MURAKONDA PAVANI
NAGENDRA KOLA
NIRUPAM BARUAH
NOOLU VENKATESH
PARTHA SARATHI PARHI
PREETYNANDA NANDA
ROHAN BISAI
RUPASHREE SAHOO
SHAMSHAD ALAM
SOUMYAPRAKASH SAHOO
SUBHASHREE SAMANTASINGHAR
SUBHRAJIT SEN
SUNIL KHUNTIA
SURABHI JAIN

Structural Engineering

ATTLURI KARTHIK SUBHASH
BOGA SHARATHDHRUTHI
JANGYA NARAYAN GOUDA
JITENDRA KUMAR MEHER
KAMINENI NAREN CHAKRAVARTHY
KILARI SURESH CHOWDARY
MANDALA VENUGOPAL
MD ZEESHAN ALI
MINNU M M
PENDRI SHASHANK REDDY
PRATHEESH P P
SAKA VARA PRASANTH
SANJU J THACHAMPURAM
SOHRAB YOULDASH
SUCHISMITA SAHU
SUSHREE SUNAYANA

Transportation Engineering

ADITYA KUMAR DAS
ARUMUGA SUBHASHINI.N
JYOTI BIRAJ DAS

MANOJ KUMAR BISWAL
RAGENI MALLIKARJUNA
RATHIKRINDA VINOD KUMAR
SOUMITRA JENA
SUPRABEET DATTA
THROVAGUNTLA KHAJA HUSSAIN
TRIDIB GOSWAMI

Water Resources Engineering

ABINASH MOHANTA
AMREETA CHAMPATIRAY
ANURAN BHATTACHARJEE
ARPAN PRADHAN
BHABANI SHANKAR DAS
BIBHUTI BHUSAN SAHOO
BIMOSH SAHOO
CHITARANJAN DALAI
ELLORA PADHI
KAMALINI DEVI
KAMEL MIRI
MONALISA MALLICK
RAJESH SINGH
SACHIN
SURAJIT MURASINGH
VIVEK GUPTA

CHEMICAL ENGINEERING

Chemical Engineering

APARNA A M
BALASA SATISH KUMAR
DELHI SANJEEV SUDHAKAR
DOROTHY CHETIA
GAJENDRAKUMAR UDARAM TEMBHURNE
HITHA SELSA
MEGHNA SHEORAN
PANKAJ DNYANDEO INDURKAR
SANTOSH DEB BARMA
SHILPI DAS
SILLA SRIKANTH
SWARNAV MITRA
TARUN VERMA
VIJAYA LAXMI
VIVEK KUMAR SINGH
VIVEK KUMAR SINGH

CERAMIC ENGINEERING

Industrial Ceramic

ANIL PAUL
ARUN KUMAR
DEBASMITA PANI
GEORGEKUTTY ULAHANNAN
KULDEEP SINGH
NEERA SINGH
PRIYA PRASAD
SNEHESH T S
SWAGATIKA MISHRA

COMPUTER SCIENCE & ENGINEERING

Computer Science

ABHISHEK SINGH YADAV
ANOOP TIWARI
ANSHUMAN BISWAL
ASHOK KUMAR MURMU
BATHI SRIKANTH
DILIP KUMAR
HARSH PAREEK
JAGTAP MAHESH VITTHALRAO
MAKVANA VIPUL BHAYLALBHAI
MANISH KUMAR
MANU ELAPPILA
MOHAMMAD AKNAN
PATLAMMAGARI GOWTAMREDDY
PRIYANKA BANSAL
RAJESH KUMAR GUPTA
RAJKAMAL KISHOR GUPTA
SAHOO MANJULATA
THUMMALA PALLAVI
VIJAY KUMAR SARTHI

Information Security

AASTHA MISHRA
AMIT KUMAR PAL
ANKIT KUMAR JAIN
APURVA SACHAN
BISWAJIT JENA
BISWOJIT NAYAK

DEEPENDRA BAPNA
HIRAK JYOTI KASHYAP
KARTHIKEYAN B
LOKENDRA REWAPATI
MANISH SACHDEV
MUNJPARA PRIYESH PRAVINBHAI
ROHIT KUMAR DAS
SAROJ KUMAR BISWAL
SHENDE DINESH ANKUSH
SIKANDAR KUMAR
SOUMYA RANJAN SATAPATHY
SUMIT VIMAL
VIKAS KUMAR

Software Engineering

ALOK KUMAR
AMAR NATH
BASANTI MINJ
DEEPAK PAL
DEVENDRA SINGH THAKUR
JYOTI PRAKASH MEHER
JYOTI SHIVHARE
KOMAL ANAND
LOV KUMAR
NIPUN MADAN
PANKAJ GUPTA
PRERNA KANOJIA
ROHIT KUMAR
SANTOSH KUMAR BEHERA
SAROJ KANTA MISRA
SAURABH KUMAR SAH
SHAKYA SUNDAR DAS
SINGAMPALLI SUDHEER
SUMANA MAITY

ELECTRONICS & COMMUNICATION ENGINEERING

VLSI Design & Embedded System

AJIT KUMAR
ANAND KUMAR MUKHOPADHYAY
APURBARANJAN PANDA
ARVIND KUMAR MISHRA
DEEPU S P
GAURAV KUMAR
GORLA RAJU
JAYANT KUMAR SINGH
JITENDRA KUMAR MAHANTY
LODHA KALPESH RAJENDRA
MOTAMARRI NAVEEN
PRASANTA KUMAR SENAPATI
RAKESH DAYARAMJI CHANDANKHEDE
RUBY MISHRA
SEEMANJALI SAHOO
SHARA MATHEW
SILPEEKA MEDHI
SUCHITAL DEBBARMA
SURAVARAM SESHAGIRI RAO
TETALA NEEL KAMAL REDDY
YAMINI PIPARSANIYAN

Electronics & Instrumentation Engineering

ABHISHEK KUMAR
ANITA LAKRA
ASHISH KUMAR SINGH
DIPEN CHANDRA MONDAL
GAURAV PRATAP SINGH
JYOTI RANJAN PATI
KULDEEP SINGH
MALIYE SAGAR MAHESH NITA
MOHIT SRIVASTAV
NILIMAMAYEE SAMAL
PRATEEK MISHRA
S.BHARGAV
SANDEEP KUMAR
SANGEETA SAHU
SAURABH BHAURAO BANSOD
SHAILESH SINGH BADGHARE
SHAKTIKANTA NAYAK
VIKRAMADITYA JAVRE

Communication & Signal Processing

ABHISHEK MITRA

Communication & Networks

ANUJ KUMAR
AVINASH GIRI
DHUNISH KUMAR
DURGASI SUDARSHAN
GYANARANJAN NAYAK
KATTA SARAN KRISHNA
KHUSHBOO MAWATWAL

KURAM RAVI KUMAR
MANISH PRADHAN
NALLAGONDA VIJAYARATNAM
PRIYANKA MITTAL
SADANANDA BEHERA
SANGEETA BHATTACHARJEE
SATISH KUMAR TIWARI
SNEHASHIS JHA
TRILOCHAN BEHERA
VARUN KUMAR
VARUN SHRIVASTAVA
VENKATESH GUNDETI

Signal & Image Processing

ANURAG PATRA
CHANDAN KUMAR
DIDDI SANDEEP VARASANKAR
JYOTI MISHRA
KHATENDRA YADAV
MANU THOMAS
MANVENDER SINGH RATHORE
NAGATI NARESH KUMAR
NARAPANENI RAGASUDHA
NEELAM ABHINAV KARTHIK
NILAY PANDEY
P GOVARDHAN
R.V.YASWANTH KUMAR
SHISHIR MAHESHWARI
SIBA PRASAD MISHRA
SUBHAMOY CHATTERJEE
SUMIT KUMAR
SWAPNA PRAVA EKKA
YOGENDRA PRASAD

ELECTRICAL ENGINEERING

Electronic Systems & Communication

A TOSHIBA PRAVEEN KUMAR
ADDANKI PRATHIMA
AKHIL DUTT TERA
ARPIT KUMAR BARANWAL
CHIRANJIBI SAMAL
DINESH KUMAR SINGH
G UMA
JOSHI KATTA
MADHU RAJ KUMAR
MATHEW FRANCIS
PAWAN KUMAR
RAJ KUMAR RANJAN
RAMPRABHAKAR K
RAVI TIWARI
ROHIT KUMAR
S.SANKARA SRINIVASAN
SAURAV GUPTA
SONAM SHRIVASTAVA
SREEJITH. M.
SURENDRA KUMAR BAIRWA
SWETALEENA SAHOO

Power Control & Drives

AMALENDU DASH
CHOLLANGI SUBHRAMANYAM
HARI AKULA
HRUSHIKESH MEHER
NARAYANADIVAKAR R.V.L
PRANGYA PARIMITA PRADHAN

Control & Automation

ABHISHEK CHAUHAN
ABHISHEK MADDHESHIYA
ADITYA KUMAR
AJAY SHANKAR
ASHIS MONDAL
ATANU BANERJEE
BIRANCHI NARAYAN RATH
GAURAV KAUSHIK
GREEN MARAIYA
MADDELA CHINNA OBAIAH
RISHIKESH KUMAR JAISWAL
SAJITH KUMAR. K. K.
SHUCHISMITA ACHARYA
SUDIPTA CHAKRABORTY
UMESH MAHAPATRA

Power Electronics & Drives

ASHISH KUMAR SWAIN
AZMERA SANDEEP
BHAGYASHREE MISHRA
BHEESHM NARAYAN PRASAD
BIJAYINI BEHERA
DEEPIKA KUMARI
DIPANJAN SAMAJPATI
GOUR SUNDER GARAIN

MAHASWETA BISWAL
MAHENDRA KUMAR MOHANTY
MUNUKUTLA LAKSHMI SOWJANYA
PRATAP RANJAN MOHANTY
RANJEET KUMAR MAHAKHUDA
RIPAN TIKADER
SANDEEP KUMAR N
SANJUKTA PATEL
SAROJ KUMAR PANDA
SUDHANSU KUMAR SAMAL
SUSHANTA KUMAR SENAPATI
SUSHMITA EKKA
SUVRA GUPTA

Industrial Electronics

ANIL KUMAR
JOYA SANKAR DWIBEDY
MARVATHU NAGARJUNA
MOHAPATRA BIKASH KUMAR SAHOO
NAGIREDDY VEERANJI REDDY
PERVEZ AHMAD
PRITIREKHA NAIK
RASHMITA GOCHHAYAT
REEMA MOHANTY
RUPESH PATEL
SANDEEP KUMAR
SATISH KUMAR PATNAIK
SHARMISTHA SARKAR
SHINDE NILESH NANDKUMAR
SHUBHAM SHARMA
SUDHANSU SEKHAR BEHERA
SUMIT MANDAL
SWATI DIXIT
VEMULA ANUSHA

MECHANICAL ENGINEERING

Machine Design & Analysis

ABHINAV KHARE
ANUP KUMAR SAHOO
DILSHAD AHMAD
DIVEKAR ANIKET ASHOK
DURJYODHAN SETHI
JITENDRA NAIK
MATHPATI VIRENDRA IRAYYA
MD. ABDUL HUSSAIN
NANDKISHOR SHARADA PRASAD SHARMA
POL MAHESH SHAHAJI RAO
RAJ KAMAL JOSHI
RAJEEV KUMAR GUPTA
RANJAN KUMAR BEHERA
ROHIT KUMAR SINGH
SACHIN SAHU
SHIVAPRASADA BAAD
SIKANDAR KUMAR
SUMIT KUMAR THANTHARATE
TATAPUDI NAVEEN KUMAR
YOGESH VERMA

Production Engineering

ABHIJIT ROY
ABHISHEK KUMAR
ABHISHEK SINGH
ANURAG SINGH
ASIT BEHERA
AVEEK MOHANTY
BEDAMATI NAYAK
BINU HARIDAS
BUDHRAM BOIPAI
CHANDAN SAMAL
GIRIJA NANDAN ARKA
JAGESHWAR KUMAR SAHU
NARENDRA KUMAR PATEL
PRAKASH MOHAN
PRIYANKA
RAVITEJA VINJAMURI
S ANANDITA
SURANJAN MOHANTY
TAYYAB ISLAM
TIJO D
VIKAS SONKAR

Thermal Engineering

AJOY KUMAR NANDY
ASUTOSH PANDA
BRIGHT ROSE
CHUNESHWAR LAL VERMA
DEBABRATA SINGH
DEBABRATA SINGH
G HEMANTH RAGHAV
JOHAN BANJARE
PARTHASARATHI MISHRA
PAWAN KUMAR TIWARI

PUNEET KUMAR NEMA
RAJEEV R PRASAD
RAJEEV R PRASAD
RASHMI RANJAN BARIK
RASHMI RANJAN BARIK
S R AKHIL KRISHNAN
SAMEER KUMAR BEHERA
SANDIP KUMAR SAHU
SATYABRATA KANUNGO
T SUDHAKAR
YAGYA KUMAR SAHU

Cryogenic & Vacuum Technology

ABHIMANYU YADAV
ADARSH KUMAR BEHERA
ASHISH KUMAR
B.MOHAN KUMAR
CHANCHAL KUMAR GAUTAM
DEEPAK KUMAR BHUNYA
JADHAV NISHIGANDHA SHIVAJI
KUMAR SHEELVARDHAN
LUKESH KUMAR
MUKESH DHAKARWAL
OMSHREE MAHAPATRA
P. S. SHIHABUDEEN
PUNIT KAR
RAJ SHRIVASTAVA
SATISH KUMAR VERMA
SHOUNAK DUTTA
TRILOCHAN PENTHIA
VIDYA BHUSHAN KUMAR

METALLURGICAL & MATERIALS ENGINEERING

Metallurgical & Materials Engineering

ARJUN RAJIV KESAVAN
BIBHUDUTTA BISHOYI
BONTHU RAVIKIRAN REDDY
HEMANT NAUTIYAL
JAY KRISHAN DORA
JAY SHANKAR KUMAR
KHEER SAGAR MAITRY
KISHORE KUMAR MAHATO
PRERNA MISHRA
RAJAT KISHOR
RAJNISH KUMAR
SATYAJEET KUMAR
SAURABH AGRAWAL
SITIKANTHA BEHERA
SUMANT KUMAR SAMAL
SUVIN SUKUMARAN

Steel Technology

ABHILASH PUROHIT
ANKUR PYASI
AWANISH KUMAR MISHRA
BISHNU PRASAD MAHTO
DIPESH KUMAR MISHRA
GEORGE LENIN T.M
LITU BEHERA
MANISH SAHU
MD.AFZAL HUSSAIN
NAVRATAN KUMAR
OM PRAKASH
PAWAN KUMAR SAHU
PREM PRAKASH SETH
RAKESH KUMAR
SANDEEP E S
SATYAVOLU SIRISH
SUPRIYA UPADHYAY
VIKASH CHANDRA DINKAR

MINING ENGINEERING

Mining Engineering

AALOK KUMAR CHAUDHARY
ABHISHEK KUMAR
ABHISHEK KUMAR TRIPATHI
ALOK RANJAN MAHANANDA
AMIT KUMAR JAISWAL
OLIVE CHOWDHURY
SASWATI BISWAS
SHARON A BADARUDEEN
VISHAL CHAUHAN

MASTER OF SCIENCE

CHEMISTRY

1st Class

AJIT KUMAR PALLEI
ANIMESH MONDAL
APARAJITA NAYAK
GURUDAS CHAKRABORTY
JAYANTI BETAL
JHUMA MONDAL
KAJAL KIRAN DEHURY
LITUN SWAIN
MEENAKETAN SETHI
MONALI MISHRA
NAUBADINI SAHOO
NEELAGIRI DAS
PARBATI TUDU
PAULAMI BOSE
SAMEER KUMAR MEHER
SHUCHISMITA DEY
SHWETA
SMRUTI MISHRA
SRABAN KUMAR SAHOO
SUCHISMITA SUBADINI
SUPRIYA MISHRA
SUPRIYA PRIYADARSHINI
SURAJ KUMAR PANIGRAHI
SUSHREE RANJAN SAHOO
SUVENDU KUMAR BARIK
SWAYAM PRAKASH
TUSHAR KANTA SAHU
VIJAYALAXMI SAHOO

LIFE SCIENCE

1st Class

ABHIPSA SWAIN
ADITI NAYAK
AJEET KUMAR
ANITA SINGH
ANSHU KUMARI
ARATI NAYAK
EDWIN ANTHONY
JIJNASA BARIK
JYOTI RAY
KALPANA DALEI
KALPANA DAS
KIRAN KUMARI
LINI SETHI
MADHUSMITA PANDA
PRAGYAN PARAMITA SAHOO
PREETI ACHARYA
PRIYA NAYAK
PRIYADARSHINI PADHI
RUTUSMITA MISHRA
SAFIYA SULTANA
SHREEMA PRADHAN
SONALI PRADHAN
SONAM GANERIWAL
STUTI PRADHAN
SUBHALAKSHMI SAMAL
SUPRIYA DEHURY
SWAGATIKA PANDA
SWAPNA SONALI PANDA
SWETA PAL
TAPASWINI SINGH
VARSHA HAIBRU

MATHEMATICS

1st Class

ASHISH KUMAR KALIA
BARSA PRIYADARSINI SARANGI
BIJAN KUMAR PATEL
BISHNU PADA MANDAL
DEEPTI SHAKTI TRIPATHI
HARI SHANKAR SHAW
INDRAJIT SUARO
KABERI PARIDA
KAUSHALYA RANI HOTA
MANASI MISHRA
MANOJ KUMAR MANDAL
PRACHISMITA SAMAL
PRASADINI MAHAPATRA
RAJESH MOHARANA
SASHI KANTA SAHOO
SASMITA PATEL
SATYAJIT KUMURA

SONALI MOHANTY
SUBHASMITA SAHOO
SUNIMA NAIK

2nd Class

SOMYASHREE SATPATHY
SUMITRA SUTAR

PHYSICS

1st Class

AAKANKSHA SAHU
ADYASHA APARIMITA
ANANNYA DUTTA
ANINDITA DAS
ANJAN KUMAR JENA
BHABANI SANKAR LENKA
JNANESWAR KHETI
MADHUSMITA BEHERA
MANASWINI KAR
NEEHA PRADHANI
NILOFER PARWEEN
PADMAVATI MURMU
RASHMI REKHA SAHOO
SABYASACHI JENA
SAGARIKA SWAIN
SHUBHRA DASH
SHYAMA MOHANTY
SNEHALATA SAHU
SRIKANTA PANDA
SRITAMA PAL
SUBHASMITA MISHRA
SURAJ SENGEL JAGANNATH HEMBRAM
SUSHREE SANGEETA BARIK
SUSHREE SANGITA NAIK
SWAGATIKA BISWAL

INTEGRATED MASTER OF SCIENCE

CHEMISTRY

1st Class

KUMARI SWARNIMA
MANJULATA HESS

MATHEMATICS

1st Class

ALOK KUMAR RANJAN
LAKESH KUMAR RAVI

PHYSICS

1st Class

ARCHANA TIWARI
BANOJ KUMAR NAYAK
BHAWIK JANI
DEBI PRASAD PATTNAIK
SHIV KUMAR SAHOO

MASTER OF ARTS IN DEVELOPMENT STUDIES

1st Class

JYOTI RANJAN MUDULI
MADHUSMITA NAIK
RAJNI SHARMA
SUBHADARSANI SWAIN
SUPRIT PANIGRAHI
SWATI HOTA
TUSHAR KAPOOR
VARSHA KUMARI

MASTER OF BUSINESS ADMINISTRATION

1st Class

ABINASH SAHOO
ARVIND BEHERA
BIBHU PRASAD PANDA
BIKASHA KUMAR SAHOO
BITHIKA JENA
DEBABRAT MALLICK
DEEPAK KUMAR MISHRA
HRUSHIKESH MAHANANDA
JUHEE JAISWAL
KALYAN SETH
KAMLESH SAMAL
LISA SEN
MANISH KUMAR
NEHA KOUR
PRAGYAN TARASIA
PRAVEEN KUMAR SINGH
RASMITA SAHU
SANDHYA NAIK
SHUBHASHREE PANDA
SUJIT KUMAR BISWAL
SWATI RATH
TRIDEV SARANGI

BACHELOR OF TECHNOLOGY

BIOMEDICAL ENGINEERING

Honours

ANIKET MAZUMDAR
BIJAY KUMAR DEBATA
HIMANSU ROUT
JHARANA DEORIYA
KRISHNA KUMAR
PRANJALI NANDA
SATYAJIT DAS
SHIVI JAIN
SIDDHARTH NAYAK

1st Class

ASISH KUMAR PADHI
AVISHEK PARIHARY
BISWAPRAKASH OJHA
DABLU RANJAN KUMAR
KUMAR PRABHU KALYAN
RAVI KUMAR
SAMIR KUMAR SETHI
SEKHARAN MAJHEE
SHRADDHANANDA BISWAL
SMRITI BHATT
UMAKANTA NAYAK

BIOTECHNOLOGY

Honours

RUKSAR SULTANA
SAMEER KUMAR GUPTA
SANJIBITA MISHRA
SATABDEE MOHAPATRA
SAWAN KATIYAR
SHASHI KUMAR

1st Class

AMIT BOTHRA
AMLAN KUMAR SAHOO
APPALA VISHNU MURTHY
ASISH DUTTA
DHEERAJ SINGH
NEHA GOYAL
N SAI VENKATA SARATH CHANDRA
PRAJNA KABIRAJ
PRIYABRATA THATOI
RAHUL KUMAR
RAUNAK M THOMAS
SHAIK KAZAVALI
SHAMBHAVI
SIDDHANT MOHANTY
SUGAVE DATTARAM NAGORAO
SURAJ PRAKASH BEHERA
VICTOR MOHANTY

2nd Class

ANURAG JHA

CIVIL ENGINEERING

Honours

ANKUR MITTAL
ASHISH GUPTA
CHIKKAM RAMAKRISHNA BALAJI
HIMANSHU KUMAR SINGH
MOHIT AMBWANI
PRATIK PATRA
PRATYASHA PATNAIK
RAJESWARI BHOLA
SASANKA SEKHAR SUKLA
SIBA JYOTI SAHOO
SINDHUJA GANTAYET
SONAL GUMANSINGH
VAIBHAV RAJ

1st Class

ABHIJEET KUMAR
AMAN GAUTAM
APURV KUMAR SIYA
AVNISH KUMAR
BHABANI SANKAR PADHI
BICHITRANANDA BEHERA
BISHWA BHUSAN HANSDAH
BUDHI MAN SHINGDAN

ISHAN JAIMIN
KAUSHAL KUMAR
MUKUL MAHATO
POKALA VAMSHI
PRIYANATH BAIRAGI
RAHUL PANDEY
RATNESH KUMAR
SANDIP KUMAR PUROHIT
SASWAT MOHAPATRA
SASWAT SAMBIT
SATYAJIT SAHOO
SIDDHARTH GIRI
SONAM TOBGAY
SUSANTA DUNG DUNG
SWAGAT CHANDAN NAYAK
TRUPTI SETHI
VIKALESH KUMAR

2nd Class

BALMURI VINAY KUMAR

CERAMIC ENGINEERING

Honours

ANTAREEP SHARMA
IPSITA MOHAPATRA
KUMAR SHUBHAM
SACHIN SAHOO
SHUBHASHREE SAHOO
S LIPSITA
SWETAPADMA MOHAPATRA

1st Class

ABINASH PRADHAN
ANURAG KUMAR
ASUTOSH MAHAPATRA
BHUKYA SUDHAKAR
GAURAV MISRA
JAN VERMA
LIPSA DAS
PRAGYAN PARMITA DAS
RAHUL ANAND
SAURAV KUMAR BETALA
SAI SHANKAR PRADHAN
SHAMBHU BHUSAN RANA
SIDHARTHA SANKAR ROUT
SIDDHARTHA RANJAN BEHERA
SOUMYA SOURAV
SOUMYA SOURAV PATRA
TANAYA ROY

2nd Class

SANTOSH KUMAR PATRA
SHAMMEE BANSAL
SHIBASHAKTI DEHERIA
SUMIT KUMAR AMAN

CHEMICAL ENGINEERING

Honours

ABHILASH PATI
APURVA AGARWAL
DEBABRATA CHAMPATI
DEBI PRASAD SAMAL
DEVESH PRASAD MISHRA
GANGADHAR HOTA
MALLIKARJUNA KALIKA
NITISH KUMAR SINGH
RATNAKAR PATRA
SHREYA SAH
SOUBHAGYA RANJAN DAS
SWARAJ PANDA
SUBHASHREE SAHOO
SUSANTA SETHI
TULIKA RASTOGI

1st Class

ABHISHEK PARIDA
ASHISH KUMAR DEWANGAN
BANKA BIHARI PRAHARAJ
BIBHUTI KUMAR SWAIN
DAMBER BDR. POWREL
DHANUSH P
DURGA PRASAD MOHARANA
JOY ROY CHOUDHURY
KAUSHAL NATH
KULDEEP SHARMA
PRABIN KUMAR PRADHAN
RAJESH KUMAR
RITURAJ BORAH
SARTHAK SUBUDHI

SAI SANKAR CHOKKAPU
SMRUTIREKHA DAS
SRAJAN SHRIVASTAVA
SUMIT KUMAR SINGH
TAPAS DAS
VISHAL MOHANTY

COMPUTER SCIENCE & ENGINEERING

Honours

ABHISHEK DAS
ABHISHEK GUPTA
AMRITANSHU MISHRA
BARADA PRASANNA ACHARYA
GUMPALLI SAI PRASANTH
JOSHI DHRUV ATUL
KRITIKA KURANI
MANISHA CHOUDHURY
M ANVESH
RASHMI RANJAN PARIDA
SARASWATI MISHRA
SHRUTI BISWAL
SOURAV KUMAR AGRAWAL
SRIRAM MAJETI
S TAUSIF AKRAM
SUBHRA MISHRA
SUSNATA ROY
T G VIKRAM RAO

1st Class

A KIRAN KUMAR
ABHIJIT NAYAK
ANANDA KUMAR BEHERA
ANIL KUMAR
ANKIT SAROHA
ANMOL ANAND
APARUP BEHERA
ARUN LAKRA
ASHU MISHRA
BANOTH KOTESH
BINEET SATAPATHY
BIRENDRA KUMAR
BISWARANJAN SETHY
CHALLA MALLIKARJUNA RAO
CHALUVADI VENKATA SAINATH
DAYADRU NAYAK
DEBASIS DASH
DEBASISH NAYAK
DURBAR SHOW
GANDIKOTA RAM PRATHEEK
KANDIPALLI PRASANTH
KARUMOJU DILEEP
KSHETRIMAYUM JENITA DEVI
MADHURI ANGEL BAXLA
MANAS RANJAN SAHOO
MEENHAZ MK MISHRA
PANKAJ KUMAR
PRETTY SAPNA TIRKEY
PUNEET SAHOO
RAJALAXMI SAHOO
RAKESH KUMAR SETHI
RAJESH KUMAR MAHAPATRA
ROHAN PATRA
ROSALIN MAHARANA
SAMBEET KAR
SANDEEP KUMAR SAHOO
SAURAV KUMAR KAR
SEJAL JAISWAL
SHASHWAT SHIKSHU
SUBHASISH PARAMANIK
SUMEET MAHAPATRA
TARUN KUMAR

2nd Class

ADITYA KUMAR
AKASH CHOUDHARY
HIMANSHU SINGH

ELECTRONICS & COMMUNICATION ENGINEERING

Honours

AJIT KUMAR SAHU
ANANYA IPSITA
ARYA KUMAR CHANDAN
DEBASISH SHANTI
DIBYAJYOTI BEHERA
GAURAV PANDA
ITISHREE MANDAL
PALLABI MISHRA
PARTHA SARATHI OJHA

PRASHANT KUMAR
RAHUL YADAV
SAURADIPTA MISHRA
SUDARSHAN NAYAK
SUBHAJIT SAHU
SWAYANGSIDDHA PANDEY
VIKASH KUMAR

1st Class

ABHIJEET PATRA
ANWESH MISHRA
ARNAB MANDAL
ASIT BARAN CHANDA
ASHUTOSH TIBREWAL
CHINMAY KUMAR BEHERA
DIBYESH KUMAR HOTA
D HEMA KUMAR
HARI JENNA
KOMMINENI RAKESH
KONAPALA PREMSHANKAR
MANORANJAN MINZ
MD. NABIL SHAHRIAR
NISHANT DAS
OMBENI KANZE KENNEDY
PRABARTIKA SAHOO
RUPALI PATRA

2nd Class

KARRI ANIL KUMAR

ELECTRICAL ENGINEERING

Honours

ABHISHEK SINGH
AMLAN JYOTI BADU
AMRIT SAHOO
ANWESHA PANDA
ASHISH MEHER
ASHIS RANJAN GOUDA
CHANDRANI DAS
DEEPAK KUMAR EKKA
GIRIJA SANKAR PATI
GOBARDHAN RANA
JOLLY MONDAL
K MAHESH DASH
KUMAR SIDDHANT
LIPSA PRIYADARSINI
MAYADHAR MUDULI
NIKHIL MUDGAL
NIRAKAR ROUT
RAHUL KUMAR GUPTA
SAMBIT KUMAR SENAPATI
SAMRESH SATAPATHY
SATISH ROUSHAN
SHYAM SUNDAR JENA
SWAYAM SASWAT
TAPAN KUMAR SWAIN

1st Class

ABHISEK KUMAR PANDA
ANGAJALA VAMSI KRISHNA
ANSHUMAN MISHRA
ARPIT MOHANTY
ASHOK KUMAR SHARMA
ASHISH SHRIVAS
BISWAJIT NAIK
GANESH KUMAR SUMAN
HIMANSU SEKHAR SAHOO
MAKHES KUMAR BEHERA
MARRIPUDI LAXMI DEEPAK
MOHANA DAS
PALLAVI GANGBER
PRASHANT GEDAM
PRATEEK KUMAR LENKA
PREETAM KUMAR NANDA
PUSHANJEET MISHRA
RAMAVATH MAHESH
R.N.V. DEEPAK BHARADWAZ
SUCHIT KUMAR SETHI
SUREDDI NIRANJAN
VAIBHAV BAID
VASUMSETTY UDAY ADITYA

2nd Class

CHIRAG AGRAWAL
JAGADISH KUMAR SETHY
KUMAR ROHIT
MANISH BHAGAT
PRIYANKA PRIYADARSHINI
SOMANATH BEHERA

ELECTRONICS & INSTRUMENTATION ENGINEERING

Honours

ADITYA NARAYAN SAHOO
AMIYA KUMAR SAMANTARAY
A RAMYATANUJA
CHALUVADHI ARUNKUMAR
GOPAL KRUSHNA PANDA
GOUTAM ACHARYA
ISHAN KUMAR SARANGI
JYOTI PRAKASH BEHERA
JYOTI RANJAN RAJ
KAUSTUV MISHRA
PRAGYAN PRIYANKA SATAPATHY
SABYASACHI MOHANTY
SAMMIKSHA RAY
SHASHANK SINGH

1st Class

ABHISEK PRUSTY
ANUBHAV PANIGRAHY
BINAY KUMAR KARALI
CHANDAN KUMAR
DEBASISH SAHOO
DEBASHISH SAHU
HEMANT KUMAR GUPTA
KAMAL PRAKASH
KHIROD KUMAR MAJHI
MOTI PRAKASH PANDA
NITESH AGARWAL
PRANNOY RAY
PRATIK DAS
RAJASHREE DAS
RAJESH KUMAR
RAVI RAJ
SANDIP KUMAR BARMAN
SAROJ KUMAR

2nd Class

ASHISH KUMAR TIRKEY

INDUSTRIAL DESIGN

Honours

ABHAY SRIVASTAV
ANAND AMRIT
ANANYA PATEL
APURV KESHAV KEDIA
ASHIRVAD JENA
DEVIDUTTA NAYAK
GADDE ROHIT SAI KIRAN
GAURAV KUMAR NAIK
HARSHIKA SINGH
JYOTI PRAGYAN SATPATHY
LIPSA MISHRA
PRAKASH KUMAR
PRIYANK KUMAR
SAURABH KUMAR
SWARNIM SHRISHTI
TADAKAMALLA SHANMUK ANIRUDH

1st Class

ALOK RANJAN BAIRAGI
AMLAN ABHINAV
ARINDAM CHANDA
AYYAGARI D P PRUDVIRAJ
BHARAT MALIK
PRANSHU
SARIT SOURAV PARIDA
SHIKHA ORAM
TAPAS RAJ

MECHANICAL ENGINEERING

Honours

ABHISHEK KUMAR SINGH
ADITYA KUMAR GAUTAM
ARUP GOURAB SAHOO
ASHUTOSH SUBUDHI
ASISH KUMAR SENA
AYUSH AGRAWAL
BHAGYASHREE SUNA
CHANDAN KUMAR SAHU
DEBADATTA PRASAD SWAIN
DEEPAK KUMAR ROUT
GOURAV CHOUDHURY

KARTIK NAIK
LAXMIPRIYA SAHOO
MANISH KUMAR
MANOJ KUMAR DAS
MOHAMMED ISTIYAQ
NITISH VARMA
PRADEEP KUMAR BAL
PRAKASH SARANGI
PRASEED SAHU
PRITAM KUMAR KUNDU
PRIYANKA AGRAWAL
RAJAT KUMAR NAHAK
RAKESH RANJAN
RISHABH MALHOTRA
SAGAR DAS
SAMBIT SARANGI
SANDEEP MISHRA
SATISH KUMAR DALAI
SAURAV SEKHAR SAHOO
SHUBHARANSHU SHEKHAR MAHAPATRA
SOUBHAGYA RANJAN SAMAL
SOUMYA PANIGRAHI
SOURAVA JYOTI NAYAK
SUBHASH KUMAR GUPTA
SUBRAT MISHRA
SUDEEP NAYAK
SUDHIR SAH
SURYAKANTA SWAIN
SWAGAT KUMAR DASH
SWARUP SAHOO

1st Class

ANSUMAN BARAL
ANSUMAN MAHARANA
ANUNAY KUMAR SINGH
ATUL DEWANGAN
AVINASH KUMAR
BHAWESH TIBREWAL
DIPTATEJ MISHRA
JYOTI RANJAN BEHERA
KANHU CHARAN TRIPATHY
KRISHNA CHANDRA TOPPO
MOHAN DAS MARANDI
PORIPIREDDY HEMANTH
PRAVEEN DASH
PREETISH PRASAD CHAND
RAJA SUTAR
RAJAN TIWARI
RAVIKUMAR SENTHOORAN
SANDEEP P B S
SANGRAM KESHARI MOHANTY
SANJEEB KUMAR NAYAK
SHUBHAM SAMEER
SIDHARTH MALLICK
SIDDHARTHA MEHER
SOHAM ACHARYA
SOUMYA PRATEEK RAUL
SOUR PRAKASH DEHURY
SUBHRANSU MOHAN SATPATHY
SUJEET KUMAR
TARAS KUMAR SWAIN
UMA SANKAR SETHI

METALLURGICAL & MATERIALS ENGINEERING

Honours

ABHIJEET DASH
ANIL KUMAR NAYAK
ANUJ DASH
BEHERA DEEPAK KUMAR
GAURAV SINGH
HRUDANANDA SAHOO
PRACHI PRAGNYA
RAJAT BHENGRAJ
ROHIT MISHRA
SANJEEB KUMAR SINGH
SHIVANGI SAHU
SIMANTA SARMA
SOUMYA MISHRA
SOUVIK SEN
SUMAN KUMAR

1st Class

ABHISHEK SAHOO
ABHISHEK KUMAR
AMAR JASPRIT DUNGDUNG
ANKIT KUMAR PANDEY
ARPIT TRIVEDI
ARBAZ KHAN
ASHADEEP PANI
ASHIS DAS
BIBHUDATTA SAHU

BIKASH KUMAR SAHOO
JITEN KUMAR BEHERA
KRISHEN KABIJEET
KUNCHUR VISHNU
MUKUND AGARWAL
NAGADAMUDI SRIHARI
NIKUNJ AGARWAL
PABITRA KUMAR MAJHI
SANJIB PANIGRAHI
SANTOSH KUMAR
SIVASIS DASH
SOURABH SETH
SUNIL KUMAR
TALLURI NEERADH
YUDHISTIR KUMBHAR
PRADEEP KUMAR YADAV
RAHUL ANAND NAG
RAVI RANJAN
SHIV SHANKAR KUMAR CHOUDHARY
SUDHANSHU KUMAR
SUMIT KUMAR BASANTRAY
YESHI WANGMO

2nd Class

RAHUL BHARDWAS

MINING ENGINEERING

Honours

AKSHAY AGGARWAL
ANKIT KUMAR
ANSHUMAN BADU
ASHISH KUMAR
DEBAKANTA PANDA
INDRAJEET SINGH
JITESH GANGAWAT
KANHAIA KUMAR
MANASA CHANDRA MOHARAJ
MANISH HOTA
PRASOON SINGH
RANJAN KUMAR SAHU
SANJAY KUMAR AGARWAL
SIBA PRASAD PANIGRAHI
SOUMYA RANJAN KAR CHOUDHURY
SOURABH KUMAR KACHARIYA
SUBHASHIS SAHU
SUDARSHAN PRADHAN
TAPAN NAYAK

1st Class

ABHIJIT SAHOO
AMIT KUMAR
AMRIT ANSHUMAN
CHANDAN KUMAR
CIKAN PRADHAN
PANKAJ RATHI

amï´r` àmÚm{JH$s gñWmZ_ amCaH$bm

Xrjm V - à{Vkm

gd d` amï´r` àmÚm{JH$s gñWmZñ` ñZmVH$m… Apñ_Z _hmK _hmËgd g_dVm… enW{_X nRm_… `V …-

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nZíM AÌmnm{OV gMZm - à`{º$ `Ì{dkmZ kmZamqe M{díd _mZdgdm`m {Z`V {d{Z`mÁ` Añ` Añ_X _hmJéH$bñ` g{Ma gå_mZ_j ÊU a{jî`m_[a{Ve_ ¥&

NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA

PLEDGE

We the students of the National Institute of Technology Rourkela graduating in the year 2014, hereby pledge -

"That we will discharge our duties as Engineers, Scientists and Technologists with utmost sincerity and dedication,

That we will strive under all circumstances to maintain individual dignity and professional integrity, and

That we will utilize our knowledge in the field of Science and Technology to serve the humanity and to uphold the dignity of our Almamater."

Medals & Prizes

Winners of Institute Gold Medals

NARAPANENI RAGASUDHA
Signal & Image Processing
Best M.Tech - 2014

KUMARI SWARNIMA
Department of Chemistry
Best Postgraduate (Integrated M.Sc.) - 2014

BITHIKA JENA
School of Management
Best MBA - 2014

SUSNATA ROY
Department of Computer Science & Engineering
Best Graduate B.Tech & B.Arch - 2014

RUTUSMITA MISHRA
Department of Life Science
Best Postgraduate (M.Sc. & M.A.) - 2014

PRAKASH SARANGI
Department of Mechanical Engineering
Best Undergraduate Project - 2014

INSTITUTE SILVER MEDALS

1. UNDERGRADUATE COURSES (B.TECH)

Biomedical Engineering	: PRANJALI NANDA
Biotechnology	: SANJIBITA MISHRA
Civil Engineering	: ANKUR MITTAL
Chemical Engineering	: SHREYA SAH
Ceramic Engineering	: IPSITA MOHAPATRA
Computer Science & Engineering	: SUSNATA ROY
Electronics & Communication Engineering	: RAHUL YADAV
Electrical Engineering	: RAHUL KUMAR GUPTA
Electronics & Instrumentation Engineering	: PRAGYAN PRIYANKA SATAPATHY
Industrial Design	: TADAKAMALLA SHANMUK ANIRUDH
Mechanical Engineering	: SANDEEP MISHRA
Metallurgical & Materials Engineering	: SOUMYA MISHRA
Mining Engineering	: TAPAN NAYAK

2. POSTGRADUATE COURSES

M.TECH

Department and Specialization	**Topper**
Biotechnology and Medical Engineering	
Specialization : Biomedical Engineering	: SHARANYA SANKAR
Specialization : Biotechnology	: TARUN AGARWAL
Civil Engineering	
Specialization : Geotechnical Engineering	: RUPASHREE SAHOO
Specialization : Structural Engineering	: MD ZEESHAN ALI
Specialization : Transportation Engineering	: ADITYA KUMAR DAS
Specialization : Water Resources Engineering	: ELLORA PADHI
Chemical Engineering	
Specialization : Chemical Engineering	: APARNA A M
Ceramic Engineering	
Specialization : Industrial Ceramic	: ANIL PAUL
Computer Science Engineering	
Specialization : Computer Science	: ANSHUMAN BISWAL
Specialization : Information Security	: HIRAK JYOTI KASHYAP
Specialization : Software Engineering	: KM.JYOTI SHIVHARE

Electronics and Communication Engineering

Specialization : VLSI Design & Embedded System	:	LODHA KALPESH RAJENDRA
Specialization : Electronics & Instrumentation Engineering	:	MALIYE SAGAR MAHESH
Specialization : Communication & Networks	:	SADANANDA BEHERA
Specialization : Signal & Image Processing	:	NARAPANENI RAGASUDHA

Electrical Engineering

Specialization : Electronic Systems & Communication	:	SREEJITH M
Specialization : Control and Automation	:	UMESH MAHAPATRA
Specialization : Power Electronics & Drives	:	BHAGYASHREE MISHRA
Specialization : Industrial Electronics	:	VEMULA ANUSHA

Mechanical Engineering

Specialization : Machine Design & Analysis	:	RANJAN KUMAR BEHERA
Specialization : Production Engineering	:	AVEEK MOHANTY
Specialization : Thermal Engineering	:	S R AKHIL KRISHNAN
Specialization : Cryogenic & Vacuum Technology	:	NISHIGANDHA SHIVAJI JADHAV

Metallurgical and Materials Engineering

Specialization : Metallurgical & Materials Engineering	:	SUVIN SUKUMARAN
Specialization : Steel Technology	:	SUPRIYA UPADHYAY

Mining Engineering

Specialization : Mining Engineering	:	ABHISHEK KUMAR

MASTER OF SCIENCE

Chemistry	:	SURAJ KUMAR PANIGRAHI
Life Science	:	RUTUSMITA MISHRA
Mathematics	:	DEEPTI SHAKTI
Physics	:	NILOFER PARWEEN

INTEGRATED MASTER OF SCIENCE

Chemistry	:	KUMARI SWARNIMA
Mathematics	:	ALOK KUMAR RANJAN
Physics	:	ARCHANA TIWARI

MASTER OF ARTS

Development Studies	:	SUPRIT PANIGRAHI

ENDOWMENT AWARDS

AWARDS

SauravRanjanKar Memorial Award : SUSNATA ROY
(Best Graduate of the Institute)
Computer Science & Engineering

Pranab Memorial Award : SANDEEP MISHRA
(Best Graduate of Mechanical Engineering)
Mechanical Engineering

Sugat Kishore Mall Memorial Award : RAHUL KUMAR GUPTA
(Best Graduate of Electrical Engineering)
Electrical Engineering

Bunty Memorial Award : SUSNATA ROY
(Best Engineering Graduate of the Institute)
Computer Science & Engineering

Distinguished Alumnus Award 2014

SHRI GOPI KANTA GHOSH
(Entrepreneurship and Public Life)

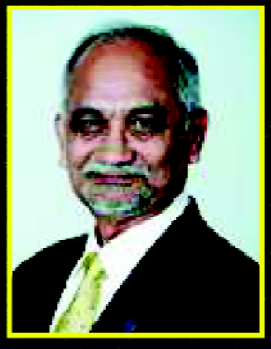
Shri Gopi Kanta Ghosh holds a B.Sc Engineering Degree in Chemical Engineering in the year 1969. He retired as Joint Chief Executive Officer of Khadi and Village Industries Commission, Ministry of Micro, Small and Medium Industries, Government of India. Before joining this post, he had worked in Hindustan Lever Ltd, Indo Burman Petroleum Ltd, the Sir Silk Ltd and Konark Detergents and Soaps Ltd. He has published 50 books and presented around 40 papers in the Indian Science Congress.

SHRI PRAMOD KUMAR JAIN
(Contribution to Institute Growth)

Shri Pramod Kumar Jain graduated with a B.Sc Engineering Degree in Mechanical Engineering in the year 1974. He is currently a Managing Partner in Kailash Rubber Industries, Agra (U.P). In 2008, he expanded his business with a new division, Sheetal Footwear and Component Pvt. Ltd, which specializes in handcrafted fashion footwear soles for which the machinery and technology has been developed indigenously. Until 1981, he was part of a venture dealing in Fabrication, Erection and Commissioning of Paper Industry and High Pressure Pipelines.

SHRI S.S. MOHANTY
(Industry and Management)

Shri S.S. Mohanty is a Mechanical Engineering graduate from UCE, Burla and was awarded a Post Graduate Diploma in Industrial Management from NIT Rourkela. He has more than 26 years of rich experience and notable achievements in Steel Authority of India Limited. He assumed the position of General Manager (Plate Mill) in Bhilai Steel Plant in the year 2006 and then took over as General Manager I/c (Services). He went on to head the Projects Division of Bhilai Steel Plant as Executive Director (Projects) and then the Works Division of Bhilai Steel Plant as Executive Director (Works). In August 2010, he was selected to head the Bokaro Steel Plant as its Managing Director and as a member of the SAIL Board. At present, he is Director (Technical), SAIL. He took over as the Chairman of S&T Mining with effect from 27 October 2011.



DR. PRABHAKAR SINGH
(Academics)

Dr. Prabhakar Singh is a 1973 batch graduate with a B.Sc Engineering Degree in Metallurgy. He acquired a Ph.D. from University of Sheffield, England, in 1978. He is presently United Technologies Endowed Chair Professor. He is also the Director, Centre for Clean Energy Engineering, and Director, Fraunhofer Center for Energy Innovation University of Connecticut, USA. He is the recipient of many awards and is Fellow, American Ceramic Society and Fellow, American Society for Metals.

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0661-2463511(R)
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E-mail : scmohanty@nitrkl.ac.in

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Registrar & Secretary, BOG,
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Fax : 0661-2462022/2472926
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53.	Prof. D. K. Bisoyi, Head, PH	-	Invitee
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55.	Prof. S.K. Bhutia, Head, LS	-	Invitee
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7.	Shri Kanhu Charan Lenka, Ministry of Industries, Govt. of Orissa	14-01-1977	30-04-1977
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13.	Shri S. B. Mishra, IAS, Secretary, Industries Dept., Govt. of Orissa	17-11-1989	12-08-1990
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15.	Shri Niranjan Patnaik, Ministry of Industries, Govt. of Orissa	04-05-1996	22-07-1999
16.	Dr. Giridhar Gomang, Chief Minister, Govt. of Orissa	23-07-1999	10-03-2000
17.	Shri Kanak Vardhan SinghDeo, Ministry of Industries, Govt. of Orissa	11-03-2000	25-06-2002

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3	Shri Drona Rath CMD, MECON LIMITED	17-12-2007	16.12.2010
4	Shri B. S. Sudhir Chandra Director (Project & Planning), Bangalore Metro Rail Corporation Ltd.	01.03.2011	24.11.2014
5	Mrs. Vasantha Ramaswamy Director, Aprameya Associates, Pune	25.11.2014	Continuing

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Prof. K. C. Pati, Dean (SW)
Er. S. K. Upadhyay, Registrar

Prof. R. K. Sahoo
PIC, Convocation-Convener

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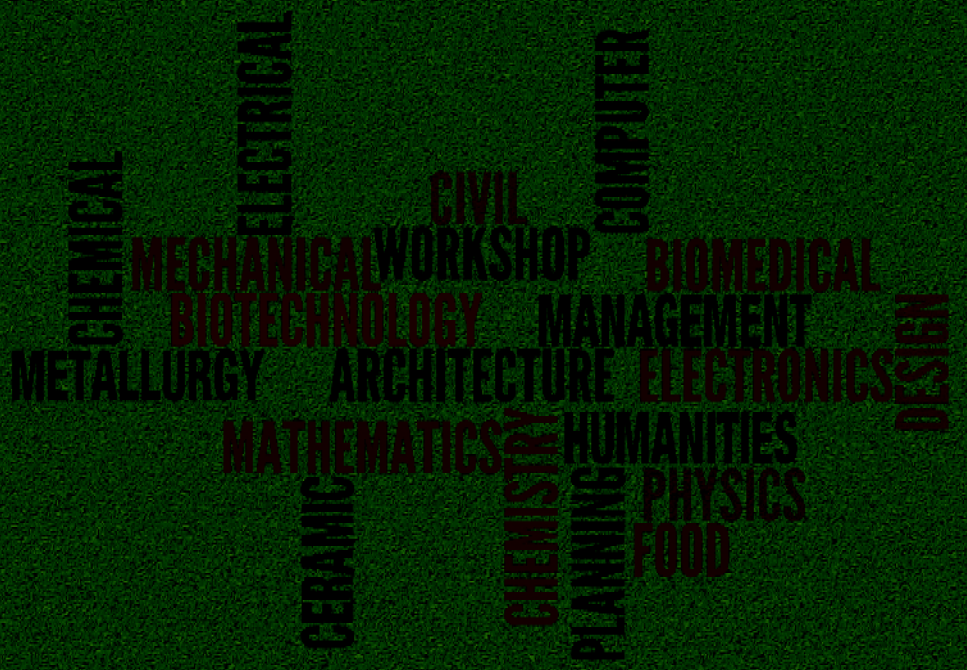
Invitation & Hospitality	Prof. R. K. Patel (CY)	Prof. Pawan Kumar(PH), Prof. S. K. Patel (ME), Mr. S. Babu, AR (SR), Mr. M. Anand Babu, AR(IA), Mr. U.K. Biswal, AR(TS), Dr. Samir Mohanty (GH), Mr. Ranjan Kr Nayak (FA), Mr. R. Singh (ES), Mr. S. Moharana(IA), Ms. Rajeeta Patra(RG)
Audio/Photography	Prof. Dipti Patra (EE)	Prof. S. Samanta (EE), Sri M. Mohanta, TA (EE)
Arrangements for VIPs	Er. S. K. Upadhayay (Reg)	Mr. P.K. Panda,DR (F&A), Mr. K.K. Sahu, AR(PW), Mr. A. Behera, AR (ES-II), Mr. B.B. Behera (RG), Mr. A. K. Sahu (DR)
Evening Function	Prof. B. Subudhi (EE)	Prof. D.R.K. Parhi(ME), Prof. S. Chinara (CS), Prof. Dillip K. Prodhan(PH), Prof.Anandya Basu(MM), Sri N.N.Nayak (SAC), Sri T.K.Sarangi(AC)
Safety & Security	Er. S. K. Upadhyay (Reg)	Sri B. Champati Ray (SO)
Transport & Ambulance	Prof. S. Jena (PH)	Sri B.Champati Ray(SO), Dr. Samir Mohanty(GH)
Electrical & AC/Fans & Field Preparation	Prof. M. K. Moharana (ME)	Mr. Y.K. Sahu(EE), Mr. M.S.P. Rao (CEA), Mr. S.P. Mohapatra (EM), Mr. D. Behera (EM), Mr. P.K. Sahoo (EM), Mr. R. K. Behera(EM)
Telephone	Prof. S. K. Behera (EC)	Sri R. K. Sahoo (TL), Mrs. K. P. Das Mohapatra (TL)
Press	Prof. B. B. Biswal (ID)	Mr. R. K. Sinha(SR), Mr. A. K. Sahu(DR), Mrs. I. Behera (DR)
Medical Facilities	Dr. C. Bhattacharya (HC)	Dr.(Mrs.) A. Debta (HC), Dr. S. Patnaik (HC), Mr. R.C. Behera (HC)

PREVIOUS CONVOCATIONS

Convocation	Date	Chief Guest
Annual Convocation – I	April 12, 2004	Prof. R. Natarajan
Annual Convocation – II	December 11, 2004	Dr. Anil Kakodkar
Annual Convocation – III	January 28, 2006	Prof. Chandrasekhar Jha
Annual Convocation – IV	December 16, 2006	Shri Subrato Bagchi
Annual Convocation – V	January 12, 2008	Dr. K. Radhakrishnan
Annual Convocation – VI	January 17, 2009	Dr. K. Kasturirangan
Annual Convocation – VII	January 16, 2010	Dr. A.P.J. Abdul Kalam
Annual Convocation - VIII	January 15, 2011	Shri Partha S. Bhattacharyya
Annual Convocation - IX	January 21, 2012	Shri Chandra Shekhar Verma
Annual Convocation - X	January 19, 2013	Dr. V. K. Saraswat
Annual Convocation - XI	January 18, 2014	Shri Sudhir Vasudeva

Glimpses of 11th Convocation



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