INDIAN INSTITUTE OF TECHNOLOGY MANDI

6th Annual Convocation
29th October 2017, Monday

CHIEF GUEST

Prof. Ashok Jhunjhunwala
PADMA SHRI
Institute Chair Committee
Indian Institute of Technology Madras

GUEST OF HONOUR

Shri Sonam Wangchuk
Engineer, Innovator and Education Reformer
Founding Director of the Students' Educational and Cultural Movement of Ladakh (SECMOL)

CHAIRMAN, BOARD OF GOVERNORS

Shri Subodh Bhargava

Former Chairman, TATA Communication Limited

DIRECTOR

Prof. Timothy A. Gonsalves

Director
IIT Mandi

Indian Institute of Technology Mandi

WELCOME TO IIT MANDI

Indian Institute of Technology Mandi (IIT Mandi) welcomes you to its 6th Convocation Ceremony on 29th October 2018. As part of this Convocation, 29 Ph.D. scholars, 11 M.S. (by Research), 28 M.Sc. (Chemistry), 11 M.Sc. Mathematics, 20 M.Tech. and 112 B.Tech. students will graduate from IIT Mandi.

IIT Mandi is nestled in the Shivalik Range of the Himalayas, away from the bustle of the metropolis. It is situated about 18 km away from the historic town of Mandi, in Kamand and Salgi near the bank of the river Uhl. Since its inception in 2009, IIT Mandi has reached commendable heights. In this very short span of time, it now has a fully residential campus with world-class academic and research facilities.

CONVOCATION PROGRAM

29th October 2018, 3:30 PM

Arrival of Chief Guest

Start of Academic Procession

National Anthem

Felicitation to Dignitaries on Dias

Chairman (BoG) Declares the Convocation "Open"

Award of the Eminent technologist of the Himalayan Region 2018 to Shri Sonam Wangchuk

Welcome Speech and Report by the Director, IIT Mandi

Award of Degrees and Medals

Oath Giving

Convocation Address by the Chief Guest

Closing of Convocation

National Anthem

Return of Academic Procession

VISION & MISSION OF IIT MANDI

VISION

To be a leader in science and technology education, knowledge creation and innovation, in an India marching towards a just, inclusive and sustainable society.

MISSION

- To create knowledge through team effort and individually for the benefit of society
- To impart education to produce professionals capable of leading efforts towards innovative products and processes for the development of the Himalayan region in particular and our country and humanity in general.
- To inculcate a spirit of entrepreneurship and to impart the ability to devise globally recognized solutions for the problems of society and industry, particularly in the fragile eco-system of the Himalayas.
- To train teachers capable of inspiring the next generation of engineers, scientists and researchers.
- To work intensely with industry in pursuit of the above goals of education and research, leading to the development of cutting edge and commercially-viable technologies.
- To operate in an ambience marked by overriding respect for ability and merit.

सत्यमेव जयते

भारत के उपराष्ट्रपति

VICE-PRESIDENT OF INDIA

MESSAGE

On the occasion of Sixth Convocation on 29th October, 2018, I extend my heartiest wishes to all the graduating students of IIT Mandi. I wish them for every success in their career.

I also extend my warm greetings and congratulation to the students, teachers and staff of IIT Mandi and wish the Convocation Ceremony all success.

(M. Venkaiah Naidu)

New Delhi
15th October, 2018.

सत्यमेव जयते

प्रधान मंत्री

Prime Minister

MESSAGE

I am pleased to learn that the sixth convocation of IIT Mandi is being organized on 29th October, 2018. Congratulations to all the students who are graduating out on this proud occasion.

I am glad to note that the IIT Mandi, despite being one of the youngest IITs in our country, has emerged as a premier centre for engineering education and research fulfilling the aspirations of the region.

Our higher education centres are bestowed with a critical responsibility of providing a facilitating environment for knowledge production and innovation. In our journey towards a New India as one of the knowledge super powers of the globe, they have the most important role to play.

I hope that IIT Mandi will continue its pursuit of academic excellence and will equip students to fulfil their aspirations. I convey my best wishes to the entire student community to achieve the goals they have set for themselves and thereby contribute towards a New India of greater prosperity and glory.

I wish all success for the convocation ceremony. Best wishes to the institution for its journey forward.

(Narendra Modi)

New Delhi
22 October, 2018

Prof. Timothy A. Gonsalves
Director
Indian Institute of Technology Mandi
Kamand
Himachal Pradesh- 175005

प्रकाश जावडेकर
Prakash Javadekar

सत्यमेव जयते

मंत्री
मानव संसाधन विकास
भारत सरकार
MINISTER
HUMAN RESOURCE DEVELOPMENT
GOVERNMENT OF INDIA

MESSAGE

It gives me a lot of pleasure to congratulate the graduating students, faculty and staff of IIT Mandi on the occasion of its Sixth Convocation Ceremony. An event as important as this marks a milestone in the life of the Institute and of the students who are now set to take up professional challenges in times to come.

The IITs, since their inception in 1950s, have hone the best Indian minds and have played their roles in steering them to pinnacles of professional excellence in almost every walk of life. By the virtue of the achievements made by its students, and faculty, the IITs today stand amongst the premier universities of science and technology of the world. I am happy to note that, akin to its predecessor, IIT Mandi has also risen the stature of academic excellence within a very short period of time.

I strongly believe that, our nation is destined to achieve glorious heights through the immense potential of its bright students. I urge the students to remain steadfast in the service of our people and nation at all the times and wish them success in the pursuit of this noble goal.

(PRAKASH JAVADEKAR)

Room No. 3, 'C' Wing, 3rd Floor, Shastri Bhavan, New Delhi-110 115
Phone : 91-11-23782387, 23782698, Fax : 91-11-23382365,
E-mail : minister.hrd@gov.in

R. Subrahmanyam, IAS
Secretary

सत्यमेव जयते

Ministry of Human Resource Development
Department of Higher Education
Government of India

MESSAGE

On behalf of the Ministry of Human Resource Development, Government of India, I would like to congratulate the graduating students on the occasion of the Sixth Convocation Ceremony of IIT Mandi. I would also like to appreciate the effort being put up by the Director, faculty members, and staff members of the Institute, whose untiring efforts have made this happy occasion possible.

I am happy to note that, IIT Mandi is already running four B.Tech, six M. Tech, three M.Sc. programmes apart from the research programmes of M.S. and Ph.D. In addition, IIT Mandi has also started its M.A. programme on Developmental Studies. I am confident that the students graduating from the M.A. programme will also contribute their best in their own area.

I wish IIT Mandi every success in achieving its aims and mission.

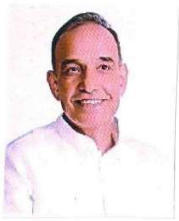
(R. Subrahmanyam)

Room No. 127, 'C' Wing, Shastri Bhavan, New Delhi-110 115 E-mail : subrahyd@gmail.com

डॉ. सत्य पाल सिंह
Dr. Satya Pal Singh

सत्यमेव जयते

मानव संसाधन विकास; और
जल संसाधन, नदी
विकास एवं गंगा संरक्षण राज्य मंत्री
भारत सरकार
MINISTER OF STATE FOR
HUMAN RESOURCE DEVELOPMENT;
AND WATER RESOURCES,
RIVER DEVELOPMENT AND
GANGA REJUVENATION
GOVERNMENT OF INDIA



MESSAGE

It is a great pleasure that IIT Mandi is celebrating its Sixth Convocation Ceremony on 29th October, 2018. I am pleased to note that IIT Mandi offers several courses at level of UG, PG and Ph.D. I congratulate the Director, faculty and staff of the Institute for the growth of institution.

I also take this opportunity to congratulate the students who are graduating this year. I urge them to continue to work hard towards achieving bigger goals, take up newer and more difficult challenges and dedicate sincere efforts towards the development of our nation. I wish them success in all their future endeavors.

10/10/2018

(Dr. Satya Pal Singh)

Place: New Delhi

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Acharya Devvrat
Governor
Himachal Pradesh

सत्यमेव जयते

आचार्य देवव्रत
राज्यपाल
हिमाचल प्रदेश

MESSAGE

It gives me immense pleasure to know that Indian Institute of Technology (IIT) Mandi is organizing its Sixth Convocation ceremony on October 29, 2018.

IIT Mandi is an Institute of repute not only in India but all over the world for its emphasis on cutting edge technological education. IIT alumni not only occupy prominent positions in Indian academia, industry, public service etc, but also serve in leadership roles at international corporations that impact billions of people around the globe.

The people of India as well as Himachal Pradesh have high hopes from all graduating students of IIT Mandi this day. It is expected that you will work for the betterment of the society, applying the knowledge and skills that you have acquired during your stay at the Institute.

I wish that the Institute continues to evolve in prominence in India, and in the world, through the achievements of its students and faculty. I convey my heartfelt felicitation to the graduating students, their families and the faculty and staff of IIT Mandi on this occasion.

(Devvrat)

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बिक्रम सिंह

उद्योग, श्रम रोजगार एवं तकनीकी शिक्षा मन्त्री
हिमाचल प्रदेश
शिमला-171 002

MESSAGE

I am pleased to know that IIT Mandi is observing its sixth Convocation Ceremony on October 29, 2018. I take this opportunity to convey my felicitations to the staff and faculty, whose untiring efforts have made the Institute rise to prominence within a very short period of time. It is very heartening to see the Kamand campus of the Institute thrive with growing infrastructure, teacher and student strength.

I am happy to note that, IIT Mandi is already running four B.Tech., six M.Tech. three M.Sc. Programmes apart from the research programmes of M.S. and Ph.D. In addition, IIT Mandi has also started its M. A. programme on Developmental Studies. I am confident that the students graduating from the various programmes will excel in their respective fields and build the brand of the institute across the years.

I congratulate the graduating students for having made this special achievement. I am certain that, the fine ethos of IIT Mandi and Himachal Pradesh must have turned them into professionals capable of scaling the greatest heights. I wish them all the best for their future endeavors.

(Bikram Singh)

Prof. Ashok Jhunjhunwala
PADMA SHRI
Institute Chair Committee
Indian Institute of Technology Madras

MESSAGE FROM THE HONORABLE CHIEF GUEST

Dear Subodhji, Timothy, members of Board of Directors and faculty of IIT Mandi, I thank you for inviting me to this august occasion. This is day of celebration for the graduating class of 2018. I remember coming here some three to four years ago, when you had just moved to this new campus, and infrastructure was just getting ready. Heating was not perfect and walkways were difficult. I had an informal meeting with some of you, where you expressed some unhappiness. I had told you to be patient; as in years to come you will be part of a history on how a great IIT was built in this remote corner of the country, in the middle of Himalayas. Looking at this institute today, I will say that you have already created the foundation of a great IIT. You have played an important role (and faced some hardship) in creating this institution. I hope you have etched your name somewhere. When you come back fifteen years later with your children, you would be able to show your contribution to this institute. You will be indeed proud.

Traditional Indians have divided a human-life into four stages: Brahmacharya (student), Grihastha (householder), Vanaprastha (retired) and Sannyasa (renunciation). In today's time, it probably has collapsed into three stages. The first remain the Brahmacharya (or student life, where you grow-up and learn), and today marks the end of this first stage for you, for the class of 2018 of IIT Mandi. I offer my heartiest congratulations to each of you for successfully crossing this stage and very best wishes for a meaningful future. I specially congratulate the medal and prize winners who have worked hard and have succeeded.

Tomorrow you enter the second stage of human life, which is a period where you will be "contributing back to this earth and society." In today's time, it typically lasts for about 50 years. From now on, you will enter in this real world, as an independent person, responsible for yourself, for your family, for your nation and for humanity at large. In Indian tradition, it is said that a human being is born to contribute to the earth. "Karma," is the purpose of one's life. It is this which makes your life meaningful. I have been in this stage for over 40 years now and can say from my personal experience, that it is indeed true. If you lead this part of life well, you will

be a satisfied person. So while your formal education is getting over, you can consider this as the real-examination, the examination of life. Your performance here will be a measure of how well you have learnt at this institute.

You are fortunate to graduate at a time when our nation is poised to grow out of its past and become a stronger nation. Each of you will indeed enjoy this, but have a special role to play and owe great responsibility in getting us there. Let me say a few words which may help you in this journey:

1. The first one may be a redundant advice, as many of may have already acquired considerable soft-skills. You need to be able to speak out in meetings, in conferences and in public without any hesitation and communicate what you want to say. It requires certain will and practice. It is easier to learn at this age. It will help you over the next 50 years. I am saying this from experience. I barely could speak in English when I graduated. I worked on it so that I could communicate well in meetings, in a class and in conferences. The clear and bold communications stood with me better than practically anything.

2. I was fortunate to be taught by some of the greatest professors of my time at IIT Kanpur. Prof. C N R Rao taught us half-life of elementary particles. During the discussions, he mentioned that even knowledge has a half-life; then he went on to say that whatever he was teaching us, had a half-life of about 3 years. So by the time we graduated, two third of what he taught us might become obsolete. He therefore advised us to not just learn what he and other teachers taught us, but prodded us to keep learning throughout our life. That was the only way that our knowledge will not become obsolete. My second advice to you is precisely that. I am sure that your college and teachers here have taught you a lot. But never stop learning in your life. The knowledge that you have acquired here will become obsolete someday; you need to learn new things. If you want to succeed in your life, keep learning all the time from your colleagues, from your friends, from your juniors and tomorrow even from your children. Today you are fortunate that you can also learn from the Internet. The day you stop learning, you will become obsolete.

3. You have to live and contribute to this nation for the next fifty years. A lot will change by then. A lot will be for better. For example, renewable are likely to become the dominant source of power. Solar and wind, rather than fossil-fuels will become dominant. You will see this in the next ten to fifteen years. You have to watch it happen and facilitate this. There is still a lot to be done in this area. A lot has to be done in the area of energy-storage to enable renewable become the dominant source of energy for the nation and the world. And you can dream of a fossil-free future, probably the only way the earth will have a future. You need to make this happen soon.

4. Similarly, by around 2030, most of India's vehicles will be running on Electric power. This will be a great disruption. Today 7.1% of India's GDP comes from auto-sector. The processing and distribution of transport fuel contributes to another 5%. This 12.1% GDP and millions of jobs associated with them will be under threat. The transition will not be smooth and if this is not handled well, it can result into major problems for our nation. You are walking into the beginning of this transition. This alone will free India from being dependent on massive oil-

imports and also from the huge pollution that petrol vehicles create. Your knowledge and skills, horned by this institute, could make a difference. Robotics, 3D-manufacturing (also called additive manufacturing), nano-materials have all arrived and is going to transform the society. The world will require and come up with new materials. Electric aircrafts will not be too far behind. You indeed are getting into fast-changing world. Your ability to learn new things, train and adopt yourself quickly, can get you to lead the world. Best wishes for that.

5. But not all the transformations will be good. One of the biggest problems that you will face in near-future is "water-problem" in the world. Availability of water will be probably the world's biggest challenge. And India will face this faster than others. The only way out is to recycle every drop that we use, preserve water and clean water. It would require technological breakthrough and some serious management effort. If we do not solve the problems, you will see water-wars in your life-time.

6. Another related problem, especially for India, will be India's waste disposal. Swatch Bharat will remain a slogan, if technologies and processes are not developed and used extensively. Quick-fixes will not work. World has to become truly sustainable. It will be a great challenge. But I want to stress that five years back, it did not appear that we can make renewable energy economical and now we have done it. Keep in mind that determined human beings can indeed use technology to transform. So you can solve the problems of water and waste in near future. You have to just be determined.

7. There is another great technological advancement in recent years. This comes from Artificial Intelligence (AI). I have seen work going on in the area for 30 years, with limited advancement. It all looked far. Then suddenly things changed in the last few years. We saw some breakthrough in some specific areas. The gains quickly spilled over in others, and now there is a flood. Huge number of people and start-ups has emerged into this area. Investment is pouring in. Data Analytics and learning is now being applied in wide-varieties of field with definite gains. The gains will grow exponentially in future. While there are definite gains in businesses and services, the fear is that it may imply making large number of jobs redundant. Why employ people when machines can do it and do it better? What will happen to these large numbers of people who becomes redundant? This is the challenge that nations will face. Only the best will survive. This is indeed a serious problem that you will encounter and the solutions have to be found sooner rather than later. There is another dooms-day scenario being painted. How long will it take the machines to become more intelligent than human beings and will they take over? While it is still in domain of science fiction, ignoring this any longer would be disastrous.

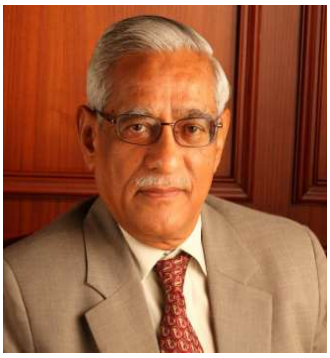
8. Yet another challenge that you will face today is that our nation is unfortunately passing through considerable social-strife. Mahatma Gandhi (whose 149th birth anniversary was celebrated this year) had stitched this nation into one, which helped us all these years. Today, we often stand divided. You have to work to end this strife. The nation is just coming out of the situation of shortages and poverty. It will need the 1.3 billion people of this country work together to move forward to tackle challenges.

9. So has your institute prepared you for all these challenges? If you have learnt to learn, then you are indeed ready. Your knowledge and skills gained here will of-course be there always for you. But of all things, it is interdisciplinary work that will enable you to tackle difficult challenges. It is at that time, the knowledge gained by not just you, but by your classmates from different disciplines can become very useful. There is always going to be a bond amongst the batchmates, even if you do not know all of them today. You have to just nurture it. I hope the graduating class today quickly form an email-group and may be a Whats App group. Staying in touch with each other, discussing and debating all kinds of things with each other, learning from others, seeking help from them -- all these will get you going and will stay with you. Just do it.

10. Finally there may be some subjects and concepts that you have found boring in the class. You may not have mastered some of these. But over the years, you may suddenly find that even this limited familiarity may be of immense use. There will be many occasions in the future that you will find all that you have learnt here, in the class and outside the class (and I need to give sufficient emphasis to outside the class) very useful. Thank your institute for what it has given to you. Come back to the institute often. Come back in five years, in ten years, and every five years ever-after. Contribute to IIT Mandi. Some of you should become faculty here. Contribute to make this institute the finest in the world. You owe this to IIT Mandi. Thank your class for becoming an extended family for you. There will be many-many challenges as you walk into the future. As I said, do not just watch these changes happen. Drive them. You will personally be successful and nation will benefit immensely. IIT Mandi will be proud to see its alumni drive such changes.

I want to again thank IIT Mandi for inviting me to this great occasion. And I again congratulate each one of you. And I bless you to have a bright future, both personally and professionally.

PROF. ASHOK JHUNJHUNWALA



MR. SUBODH BHARGAVA
CHAIRPERSON, BOARD OF GOVERNORS, IIT MANDI
&
FORMER CHAIRMAN, TATA COMMUNICATIONS LIMITED

MESSAGE FROM THE CHAIRMAN, BOARD OF GOVERNORS

Let me first extend my hearty congratulations to the young men and women who will be receiving their degree today. You are starting on a new journey in your life to surely an exciting career ahead. I do hope that the learning and the skills you acquired here, you also had the opportunity to learn the values how to be a good human being and remain a student and learn all through from life. I expect that the contribution from each one of you to the development of our country and a better sustainable future would not be wanting. My compliment and congratulations also to your parents for their care, guidance and support to you through the years past.

I am delighted that Prof. Ashok Jhunjhunwala, Padma Shri, Institute Chair Professor, IIT Madras and a true and successful technocrat will be the Chief guest and Mr. Sonam Wangchuk, award winning engineer from Ladakh will be the Guest of Honour at the 6th Convocation of IIT Mandi. It is my pleasure and privilege to welcome to them.

IIT Mandi began its journey in 2009 and has since progressed rapidly with many firsts and pioneering initiatives. On behalf of the Board of Governors of IIT Mandi compliments to the Director Prof. Gonsalves, Members of the Faculty and the Staff for their commitment and the achievements.

The board of Governors of IIT Mandi continues to encourage the growth and development in both teaching and research by formulating and approving policies empowering the faculty and staff to give their best. No doubt, we are helped in this regard by the Director and his Leadership team.

I may add that there is a long way to go for us to compete with the very best at the global level. The challenges include expeditious completion of creating the requisite infrastructure keeping in pace with the increasing number of students, faculty and staff in the coming years.

Recruitment and retention of bright young faculty will continue to be an important factor in Institute's development. With coming up of many new technical educational institutions besides expansion of existing IITs, NITs etc. there already is and is bound to be shortage of good faculty. We have to make special efforts to attract talent. Let the location and the related difficulty to get to Mandi not be a handicap – let us turn it on its head and leverage our beautiful landscape situated in the Himalayas and the excellent sprawling campus for attracting the beast.

I would like to focus on two crucial aspects of this Institute's engagement with the wider world today: Industry Connect, and International Collaborations.

Industry Connect first. Many of you will be aware of Catalyst, IIT Mandi's Technology-Business incubator. Only two years old, Catalyst is already supporting 15 teams and start-ups in domains such as Health Tech, Edu Tech, Fin Tech, Agro Tech, Bio Tech, Renewable and Clean Energy. One such AI based start-up, Solar Labs, has just won the 3rd place in Schneider Electric's Asia-Pacific level startup pitch contest held in Singapore. It is commendable that this company was founded by IIT Mandi students who opted to reject high-paying jobs in order to follow their dream. I wish the Catalyst team and incubate every success in future.

I would also like to mention two other projects at this point. One is the Farmer Zone project, a Department of Biotechnology Initiative with IIT Mandi as the lead institution. This project will deliver the benefits of Machine Learning algorithms to farmers by giving them access to up-to-date weather, soil and crop disease information.

The second project which immense scope for collaboration with Industry is the E-auto project: IIT Mandi is evaluating the business model for popularizing the same, and also testing prototypes. This is a unique initiative since it focuses on hilly regions. I look forward to the implementation of these projects. IIT Mandi hosted over 20 senior technical personnel from Industry since January this year, and I hope these numbers will rise. The Industry panel of the recently concluded 3rd HP Science Congress held at IIT Mandi is an excellent initiative in this regard.

Coming to International linkages: this year faculty members visited SAARC countries to recruit students. We welcome students from Nepal and Bangladesh. IIT Mandi has also been appointed the nodal Institute for collaboration with German universities in the recently launched 'Scheme for Promotion of Academic and Research Collaboration' (SPARC) by the Ministry of Human Resource Development, Government of India. I am sure IIT Mandi will capitalize on its already strong linkages with the German TU9 Universities to make this international partnership a success. I hope that eventually IIT Mandi's international collaborations will translate to the award of joint degrees as well as the faculty exchange, recruitment and mobility from and to all parts of the world.

I am glad to note that this campus will conduct an International Workshop in Nano/Micro 2D-3D fabrication and manufacturing of electronic-biomedical devices and applications at the end of this month. Scientists and policymakers from the US, Germany, Taiwan and Singapore are scheduled to attend this event. I hope this will be the first of many events with International participants to be hosted in this well-developed and attractive campus.

Those graduating today will join the alumni who will remember their days here, sometimes fondly when you think of friends of friends and favorite teachers; sometimes with a touch of relief when you recall courses, tests, exams which appeared a formidable hurdles. My best wishes to each of you for a bright and successful future.

MR. SUBODH BHARGAVA

BOARDS OF GOVERNORS

Chairperson (Nominee of the visitor)

Shri. Subodh Bhargava
Chairperson, BoG, IIT Mandi

Director (Ex-officio)

Prof. Timothy A Gonsalves
Director, IIT Mandi

Nominees of the State Government

Chief Secretary / Secretary (by designation)
Technical Education, Government of Himachal Pradesh,
Shimla - 171002

Chief Secretary / Secretary (by designation)
Higher Education, Government of Jammu & Kashmir
Srinagar-190001

Nominees of the IIT Council

Prof. S. C. Sahasrabudhe
Former Director (DAIICT)

Prof. (Mrs.) Basabi Bhaumik
Professor, Dept. of Electrical Engineering
Indian Institute of Technology Delhi

Mr. Satish K. Kaura
CMD, Samtel Group

Shri Raj Khilnani
Former Director General
Anti Corruption Bureau

Nominees of the Senate

Prof. Subrata Ray
Distinguished Visiting Professor
School of Engineering

Dr. Pradeep C. Parameswaran
Associate Professor & Dean (Academics)
School of Basic Sciences

Secretary

Dr. Vishal Singh Chauhan
Registrar (Ex-Officio), IIT Mandi

DIRECTOR'S REPORT

PROFESSOR TIMOTHY A. GONSALVES
DIRECTOR, IIT MANDI

Prof. Ashok Jhunjhunwala, Chief Guest of the 6th Convocation; Mr. Sonam Wangchuk, award winning engineer from Ladakh and Guest of Honour today; Mr. Subodh Bhargava, Chairman of the Board of Governors; Members of the Board of Governors, IIT Mandi; Members of the Academic Senate; Faculty and Staff Members of the Institute; graduating students and their family members; distinguished guests: I welcome you all on the occasion of the 6th Convocation of the Indian Institute of Technology Mandi. I offer my congratulations to all graduating students on their success. I am sure this is a memorable day for you and your families.

Today, we are delighted to have with us Prof. Ashok Jhunjhunwala as the Chief Guest of the 6th Convocation of IIT Mandi. Prof. Jhunjhunwala was conferred the Padma Shri in 2002, and is recipient of the Shanti Swarup Bhatnagar Award, the Vikram Sarabhai Research Award, the H. K. Firodia Award, the Silicon India Leadership Award, and the Millennium Medal at the Indian Science Congress.

Sonam Wangchuk, Recipient of the Ramon Magasasay award 2018, is an inspiration to us all. He is an innovator and educationist of international renown. He is the founding director of the Students' Educational and Cultural Movement of Ladakh(SECMOL). It is an honour for us to have him visit our campus for the second time this year.

1. GRADUATING STUDENTS

112 B.Tech. students, 20 M.Tech. students, 28 M.Sc. (Chemistry) students, 11 M.Sc. (Mathematics) students and 40 research scholars will be graduating today. Of the 46 research scholars, 11 are being awarded M.S. (by Research) degrees and 29 are being conferred Ph.D degrees. I would like to share with you a brief summary of the research being recognized today by award of these degrees:

1. GRADUATING RESEARCH STUDENTS

Ph.D., Doctor of Philosophy

1. RAJIV KUMAR MAURYA
Ph.D. Guide: Dr. Bindu Radhamany
Title of the Thesis: Investigation of structural connectivity with the physical properties of ilmenite and pyroxene based oxides
Explores the link between structure and electronic properties of ilmenite and pyroxene based compounds.

2. JALIM SINGH
Ph.D. Guide: Dr. Prasanth P. Jose
Title of the Thesis: Microscopic Structure and Dynamics of Glass Transition under Phase Separation in a Model Linear Polymer Melt.
Presents theoretical and computational investigations which compare the features of structural glass transition under positive pressure and negative pressure.

3. ABHISHEK KUMAR GUPTA
Ph.D.Guide: Dr. Pradeep Parameswaran
Title of the Thesis: Development of New Schiff base Derivatives as Fluorescent Chemosensors, NIR Emitters and Catalysts
Develops a series of Schiff base ligands and their metal complexes for sensing metal ions from solutions, as trans-etherification catalysts for bio-diesel synthesis and as near infrared emitting materials in solid state.

4. DEEPAK KUMAR
Ph.D.Guide: Dr. Manoj Thakur
Title of the Thesis: Multi-category Nonparallel Support Vector Machine and Application to Financial Market Prediction
Designs and develops efficient machine learning algorithms for data classification and their applications in developing automated intraday and carry forward trading systems for making investment decisions in financial markets.

5. GOURAB DEY
Ph.D.Guide: Dr. Subrata Ghosh
Title of the Thesis: Albumin Specific Molecular Lumino Materials: From Quantification to Bioimaging.
Develops organic materials for detection, quantification and in-vivo imaging of albumin.

6. TRIPTI VATS
Ph.D.Guide: Dr. Prem Felix Siril
Title of the Thesis: Unraveling the Potential of Pristine Graphene as a Valuable Catalyst Support Material for Nanoparticles
Proves that pristine grapheme, rather than the traditionally used reduced graphene oxide is a better catalyst support material. Nanoparticles supported on pristine graphene outperformed similar particles supported on reduced graphene oxide for an array of reactions.

7. MOHIT CHAWLA
Ph.D.Guide: Dr. Prem Felix Siril
Title of the Thesis: Tuning the Morphology and Composition of Metal Based Nanostructures for

Enhancing the Catalytic and Sensing Performance
Researches development of High Performance Nanomaterials for Catalytic and Sensing Applications.

8. MANGILI VENKATESWARULU
Ph.D. Guide: Dr. Subrata Ghosh
Title of the Thesis: Mechanistic Insights into Inter-/Intra-Molecular Thiolysis of Sulfonate Esters: Reaction Dynamics, Orbital Overlap Vs Molecular Reactivity, Induced Proximity Effect and Directed Transannular Interaction
Investigates how the extent of orbital overlap controls molecular reactivity.

9. K LINGESHWAR REDDY
Ph.D. Guide: Dr. Venkata Krishnan
Title of the Thesis: Near Infrared Active Upconversion Nanophosphors for Theranostics, Sensing and Photocatalysis
Designs and develops a variety of up-conversion nanomaterials for various applications, such as bioimaging, drug delivery, sensing and photocatalysis.

10.SOHAN LAL
Ph.D. Guide: Dr. Sudhir Pandey
Title of the Thesis: Investigation of Structural, Electronic and Magnetic Properties of Spinels by using Density Functional Theory
Reports a comprehensive study and analysis of the structural, electronic and magnetic properties of V and Cr spinels. This is done by deploying not only the standard DFT methodology, also by invoking DFT+U and DFT+DMFT approaches to gain new insight into the workings of these materials.

11.ABDUS SALAM SARKAR
Ph.D. Guide: Dr. Suman K. Pal
Title of the Thesis: Emerging Two-Dimensional Materials and Their van der Waals Heterostructures: Chemical Exfoliation to Device Applications
Develops novel two-dimensional (2D) materials and related nanoscale heterojunctions for organic electronic applications. Also explores the intriguing electronic, vibrational and electrical properties of the synthesized 2D materials and their heterojunctions.

12.SANDEEP SHARMA
Ph.D. Guide: Dr. Nitu Kumari
Title of the Thesis: Modeling the Dynamics of Waterborne Diseases under the Influence of Environmental Pollution
Formulated deterministic mathematical models to study the impact of pollution on the spread of infectious diseases. This work unfolds a new dimension in disease modeling by considering pollution for the first time.

13.PANKAJ NARULA
Ph.D. Guide: Dr. Sarita Azad
Title of the Thesis: Functional Data Analysis of Temperature and Rainfall Observations for Regional Indexing of Climate Change Severity in India
Detects mean change-years of Indian temperature data using functional data analysis (FDA). An Index, a measure of recent hotspots of temperature change, has been constituted using various outputs of FDA. A driving rain map using rainfall and wind speed has also been developed.

14.SUBIT KUMAR JAIN
Ph.D. Guide: Dr. Rajendra Ray
Title of the Thesis: A Class of Non-Linear Coupled Partial Differential Equation based Models for

Image Restoration with its Numerical Realization

Focuses on the development of non-linear coupled PDE based mathematical models for image denoising, both additive Gaussian noise and multiplicative speckle noise, from natural or synthetic images, and its application to ultrasound images to check its capacity in handling real medical images.

15.PULKIT SHARMA

Ph.D. Guide: Dr. Anil K Sao

Title of the Thesis: Significance of Sparse Representation for Speech Recognition and Speech Synthesis

Exploits the low-dimensional multi-subspace structure of speech signals towards the goal of improving acoustic modeling for automatic speech recognition and the speech synthesis systems. To this aim the work employs tools from sparsity aware signal processing under novel frameworks to enrich the acoustic information present in the speech signal

16.SAURABH SINGH

Ph.D. Guide: Dr. Sudhir Pandey

Title of the Thesis: Study of Thermoelectric Properties of Oxide Materials in High-Temperature Region.

Describes a systematic approach on probing and optimizing thermoelectric materials for their applications in high temperature range.

17.VIPUL SHARMA

Ph.D. Guide: Dr. Venkata Krishnan

Title of the Thesis: Design and Fabrication of Plant Leaf-inspired Biomimetic Patterned Surfaces for Fog Harvesting, Sensing and Catalysis Applications

Explores the possibilities to utilize natural and bioinspired patterned surfaces of plant leaves for diverse applications, including fog harvesting, surface enhanced Raman scattering based chemical sensing and catalysis.

18.NEERAJ SANKHYAN

Ph.D. Guide: Dr. Suman Sigroha

Title of the Thesis: A Thematic Study of English Poetry from the Conflict-Affected States of the Indian Himalayas

Investigates the representations of concerns related to Identity, Ethnicity, Environmental crisis and Feminism in poetry emanating from these regions.

19.VINAYAK ABROL

Ph.D. Guide: Dr. Anil K Sao

Title of the thesis: Greedy Dictionary Learning Methods for Sparse Representation of Signals

Discusses greedy methods for matrix factorization in particular geared toward sparsity aware signal processing. Covers both theoretical as well as practical aspects about these methods in the context of many well-known matrix factorization problems with applications in the area of speech and image processing.

20. P. GURU PRASAD REDDY

PhD Guide: Dr. Pradeep Parameswaran

Title of the Thesis: Development of New Non-Chemically Amplified Resists for High Resolution Lithography Applications

Develops Organic inorganic hybrid photoresists for high resolution E-beam, EUV and Helium-ion beam lithography applications.

21. SYAMANTAK KHAN

PhD Guide: Dr. Chayan K Nandi

Title of the Thesis: New Insights into Carbon Nanodots: Analysis of Ensemble and Single Molecule Fluorescence

Investigates the complex photoluminescence of carbon nanodots both in ensemble and at the single particle level aiming for their application in super-resolution microscopy.

22.AVDHESH KUMAR

PhD Guide: Dr. Muslim Malik

Title of the Thesis: A Study of Instantaneous and Non-Instantaneous Impulsive Differential Equations with Applications in Control Problems

Based on impulsive differential Equations with applications in control problems, establishes the necessary and sufficient conditions for the controllability of second order and fractional order differential equations.

23.NIDHI BARANWAL

PhD Guide: Prof. Shripad P. Mahulikar (External Main Guide), Dr. M. Talha (Internal Co- Guide)
Title of the Thesis: Infrared Signature of Jet Nozzle in Off-design Operation of Combat Aircraft Engine

Investigates the effect of the nozzle area variation and the engine back-pressure penalty on IR signature and lock-onrange in combat aircrafts, and belongs to the area of stealthtechnology.

24.FARIA REHMAN

Ph.D. Guide: Dr. Atul Dhar and Dr. Om Prakash Singh (External Guide)
Title of the Thesis: Characteristics of double-diffusive finger evolution: Numerical, Analytical and Experimental Study

Studies the characteristics of double-diffusive finger evolution and important parameters that govern them. Practical application of this fundamental application would be in nutrient mixing and distribution in ocean ecosystem.

25. **NEHA SHARMA**

Ph.D. Guide: Dr. Varun Dutt
Title of the Thesis: Decisions from Experience: Investigating Individual-Level Decisions in Bandit Problems via Experimentation and Computational Cognitive Modeling.

Explores how different computational models of aggregate choice explain individual decisions in gambles involving risk. Empirically evaluates the role of various cognitive factors such as recency, frequency, choice-set size.

26. SANJAY RATHEE

Ph.D. Guide: Dr. Arti Kashyap
Title of the Thesis: Distributed Algorithms on Big Data Frameworks for Alignment and Analysis of Big Data generated by Next-Generation Sequencing

Presents very accurate and efficient distributed sequence alignment and analysis algorithms. Two distributed sequence alignment algorithms named as AVLR-Mapper and StreamAligner are proposed and implemented.

27. SURAJ SHANKARLAL MEGHWANI

Ph.D. Guide: Dr. Manoj Thakur
Title of the Thesis: Multi-objective evolutionary algorithms and their application to financial portfolio optimization

In this thesis multi-objective evolutionary algorithms are developed. Application to financial portfolio optimization problems having several constraints used in practical scenario are studied with theoretical justification. The findings are useful for practitioners for efficient asset allocation

and risk management.

28. PAWAN KUMAR

Ph.D. Guide: Dr. Viswanath Balakrishnan

Title of the Thesis: CVD growth, defect and phase engineering in 2D materials for optoelectronic applications

This thesis work emphasizes on the development of atomically thin two dimensional materials, defect and phase engineering to amplify the intrinsic optical and electrical behavior for optoelectronic applications.

29. ANKIT GUPTA

Ph.D. Guide: Dr. Mohammad Talha

Title of the Thesis: Development of Nonpolynomial based Higher-Order Structural Kinematics for Functionally Graded Plates

In the present study, a non polynomial based higher-order shear and normal deformation theory has been developed and implemented to investigate the structural response of the functionally graded structures. Functionally graded structures offer great ability and excellent performance in a wide range of engineering applications, such as in space shuttle, advanced aircraft, mechanical and biomedical engineering.

M.S. (by Research)

1. PRIYBRAT SHARMA

M.S. Thesis Guide: Dr. Atul Dhar

Title of the Thesis: Study of Hydrogen fumigation in compression ignition engine

An experimental and numerical study of performance, emissions and combustion characteristics of hydrogen-diesel dual fuel engines.

2. **PUNIT KUMAR**

M.S. Thesis Guide: Dr. P. Anil Kishan

Title of the Thesis: Study of Combustion Characteristics of Premixed and Diffusion Flame with Hydrogen and Methane Fuel

Fabricated a constant volume combustion chamber setup and performed experiments and numerical simulations to find the flame velocity and rate of propagation of flame front.

3. KUMAR GAURAV

M.S. Thesis Guide: Dr. Sudhir Pandey

Title of the Thesis: Developing Methodology for Searching Efficient Thermoelectric Materials and Their Utilization in Designing Thermoelectric Generators

Develops a methodology for searching efficient thermoelectric materials by estimating fairly

accurate efficiency of thermoelectric generator using the temperature dependent ZT values of various materials. Designs a thermoelectric generator for automobile by considering various realistic parameters.

4. SANJAY SINGH TOMAR

M.S. Thesis Guide: Dr. Mohammad Talha

Title of the Thesis: Nonlinear Structural Response of Geometrically Imperfect Skewed Sandwich Fgm Plates with Material Uncertainties

Studies the nonlinear deterministic and stochastic response of the functionally graded skew sandwich plates with initial geometric imperfections.

5. SRISHTI GAUTAM

M.S. Thesis Guide: Dr. Arnav Bhavsar & Dr. Anil K Sao

Title of the Thesis: **Segmentation and Classification of Nuclei in PAP-smear Images for Automated Cervical Cancer Screening**

Contributes in the field of automated cervical cancer detection by proposing machine learning based algorithms along with the much needed comparison between the traditional and deep learning methods.

6. ABHISHEK VISHWANATH BANGUNDE

M.S. Thesis Guide: Dr. Rajeev Kumar and Dr. S.C. Jain

Title of the Thesis: Torsional vibration analysis and fatigue life estimation of turbo-generator coupled shaft system under electrical disturbances

Investigatesshaft damage due to torsional vibrations initiated by short circuit and mal-synchronization on the power system.

7. SARTHAK NAG

M.S. Thesis Guide: Dr. Atul Dhar and Dr. Arpan Gupta

Title of the Thesis: Exhaust Gas Recirculation assisted Hydrogen-Diesel Combustion with Exhaust Heat Recovery

Designs automotive exhaust thermoelectric generator to recover engine waste heat, which recovered a maximum power of 18 W. Numerical studies on the AETEG unit also showed the scope of improvement with enhancing the baffle number. Application of EGR showed the possibility of NOx reduction and improvement of hydrogen energy share.

8. MANISH VAISH

M.S. Thesis Guide: Dr. Rahul Vaish (Guide), Dr. Vishal S Chauhan (Co-guide)

Title of the thesis: Experimental study on thermal energy harvesting using ferroelectric materials

This study deals with waste thermal energy harvesting using pyroelectric materials.

9. HARSHA MATHUR

M.S. Thesis Guide: Dr. Subashish Dutta

Title of the thesis: State Feedback Control for Structured Descriptor Systems: A Graph Theoretic Approach

In this thesis, we propose the methodology to design static state feedback control in linear time invariant structured descriptor systems using graph theoretic approach. The digraph representation of open loop and closed loop structured descriptor systems are represented by defining square matrices. In this approach, only the structure of the system is considered with system matrices having indeterminate entries henceforth the designed controller remains robust to parametric perturbations.

10. K S SRIKANTH

MS Thesis Guide: Dr. Rahul Vaish

Title of the thesis: Investigation On Various Methods To Enhance The Pyroelectric Performance Of Lead-Free Ceramics

The thesis focuses on improving the performance of the pyroelectric materials which have been tuned by adopting various methods. These methods include chemical modifications by doping, physical modifications by composite route (addition of glass), by inducing porosity and by compositionally tweaking the phase transitions to meet our requirements. Various figure of merits have been calculated for assessing the performance of the investigated ceramics and compared with the best lead-based and lead-free systems.

11. NAMAN BARTWAL

MS Thesis Guide: Dr. Pradeep Kumar

Title of the thesis: Investigation of Nan-Gray Radiative Properties on Natural Convection in Tall Cavities at Low Temperature

Radiative heat transfer plays important role in every walk of life ranging from human comfort to high energy applications. The calculated absorption coefficients of atmospheric air from HITEMP-2010 database, have been utilized for the analysis of non-gray radiation effect on the natural convection in two tall cavities. The radiative heat transfer dominates convective heat transfer in the cavities operating at low temperature range.

2. ACADEMICACTIVITIES

A. Current Students

In 2018, 193 B.Tech. Students, 79M.Sc.students, 110 M.Tech students and 13 M.A. students secured admission at IITMandi.We now have a total of 1276 students including 274 Ph.D., 46 M.S. and 17 I-Ph.D. research scholars. Programme and branch-wise distribution of the students is as follows:

B.Tech.	**Civil** 97	**CSE** 239	**EE** 169	**ME** 122	**Total** 627
M.Sc.	**Chemistry** 48	**Physics** 40	**Mathematics** 44		132
M.Tech.	**SCEE** 68	**SE** 79	**SBS** 20		167

M.A.	**SHSS** 13				13
MS by Research	**SCEE** 18	**SE** 28			46
I-Ph.D.	**SBS** Physics				17
PhD	**SCEE** 67	**SE** 67	**SBS** 119	**SHSS** 21	274
					1276

B. Life after IIT

In the last year, the Career and Placement Cell has undertaken several initiatives to conduct a number of career-awareness sessions to make1stand 2ndB.Tech.studentsawareofthemanyavenues open to them. These included lectures by inspiring academic and civil servants, motivating sessions by entrepreneurs, informative sessions about various competitive exams by coaching institutes, and corporate pre-placement talks. In the 2017-18 placement season, 58 companies visit our campus at Kamand, which is the highest ever at our Institute till now. Among these companies more than 83% were core companies. Branch-wise placement ratios for B.Tech students were 100% in CS, 66% in ME and 83% in EE. Other than B.Tech. students, 55% of registered post-graduate students also got placed. These included 4 M.S, 2 M.Sc.(Applied mathematics), 5 M.Tech. (VLSI), 1 M.Tech.(Energy engineering with specialization in mechanical) 2 M.Tech.(Mechanical engineering with specialization in energy system)and4Ph.D.Students.

Fully realizing the significance of a strongly-bonded alumni community in having the capacity to enhance both the reputation and the resources of their alma mater, the IIT Mandi community organized the first Alumni meet on 26th May 2018. We hope this was the first of many regular events to enhance interaction between alumni and current students for their mutual benefit.

C. New Degree Programmes

Since August 2017, IIT Mandi initiated as many as 5 new degree programmes. These draw on the expertise and research experience and interests of our 110 faculty members. These programmes are:

1. M.Sc. in Physics
2. M.Tech. in Power Electronics and Drives (PED)
3. M.Tech. in Structural Engineering
4. M.Tech. in Communications and Signal Processing (CSP)
5. M.A. in Development Studies

These new programmes take IIT Mandi a step closer towards achieving its target of 60 percent postgraduate students in its student strength in the coming years.

D. Publications

IIT Mandi researchers published 292 peer-reviewed articles during the academic year 2017-18.The total number of peer reviewed publications from the institute in National and International journals is 1271 (up to March 2018).

E. Major Academic Achievements of Faculty and Scholars:

Prestigious Awards and Fellowships:

- Dr. Chayan Kanti Nandi has won a Bronze medal for “Excellent Contribution in Research in Chemical Science” from the Research Society of India (CRSI-2019).
- Dr. Bharat Singh Rajpurohit received the "IEEE IAS Outstanding Chapter Chair 2018" award at Portland, USA.
- Mr. Ashwani Kumar, a Ph.D student in the School of Basic Sciences won the prestigious Newton International Fellowship 2018 award for pursuing post-doctoral studies in UK.
- Mr. Mohnish, a student in MSc (Applied Mathematics) has been awarded a fully funded Ph.D. position at the University of Warsaw, Poland.
- Dr. Ajay Soni visited Rensselaer Polytechnic Institute, New York, on the prestigious Bhaskara Advanced Solar Energy Research Fellowship from Indo-US Science and Technology Forum.
- 11 students from IIT Mandi, including Sahil Arora from the graduating batch, were selected for Google Summer of Code (GsoC), a global program focused on bringing more student developers into open source software development.

Technology Development:

- Dr. Varun Dutt, Dr. K.V. Uday, P. Chaturvedi, K. Agrawal, S. Agrawal, and N. Mali had helped district Mandi to set up 10+ landslide monitoring and warning systems in the district that had provided timely alert during a past incident. An International patent has also been filed for the system.

Engagement in Academic Societies:

- Dr. K.V. Uday was selected to represent the Indian Geotechnical Society as one of 3 Corresponding Members of the International Technical Committee on "Slope Stability in Engineering Practice" of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) for 2018-2021.
- Dr. Shubhajit Roy Chowdhury was invited to join as an Associate Editor in the IEEE Access Journal (Area: low cost hand held electronic devices and systems).
- Dr. Pradeep Kumar, School of Basic Sciences, was selected to join Indian National Young Academy of Science (INYAS) as a member, for five years, beginning January

2018.

Notable Best Paper Awards for Ph.D. students:

- Mr. Atendra Kumar (Co-author: Dr. Rajendra K Ray) received the Best Paper Award in the 7th International Conference on Computational Mathematics, Computational Geometry & Statistics (CMCGS 2018), held in Singapore.
- Mr. Avadhesh Kumar (Co-author: Dr. Muslim Malik), received the Best Presentation award at the 19th International Conference on Mathematics and Mathematical Sciences in Paris, France.
- Ms. Vibha Gupta (Co-author: Dr. Arvan Bhavsar) received the Best Paper award at the IEEE International Workshop on Computer Vision for Microscopy Image Analysis (IEEE CVMI 2018) held at Salt Lake City, USA, in June 2018.

3.INTERNATIONAL LINKAGES

IIT Mandi is a part of an international academic community, and working towards increasing both the scope as well as depth of its international collaborations. International students can pursue graduate full-time degree programs at IIT Mandi. Bachelor's, Master's and Ph.D. students affiliated to institutes in other countries can also spend up to a year at IIT Mandi under existing student exchange programmes with academic credit transfer. During the past year, IIT Mandi hosted many international students for visits and for semester-exchange. In addition to 22 undergraduate students from WPI, USA, who stayed on campus for seven weeks to work on joint socio-technical projects with 3rd year B.Tech. students, 7 students from the UK (Universities of Bath and Loughborough) and Germany (TU Munich, TU Darmstadt and Georg-August University, Goettingen) spent time at our campus for up to a semester.

This year, IIT Mandi worked with other new IITs to attract graduate students from neighboring countries like Bangladesh and Nepal. Faculty delegates from IIT Mandi and other IITs visited Bangladesh and Nepal for attracting bright students at the graduate level. A total of 112 students applied for the M. Tech., M.S., and Ph.D. admissions across all IITs. Out of these 112 students, 89 students (79.5%) applied exclusively to IIT Mandi. After interviewing candidates, IIT Mandi made 12 offers of admissions to students from Bangladesh and Nepal. Students joining IIT Mandi from Bangladesh and Nepal include the following:

- Mr. Prakash Giri from Nepal joined IIT Mandi in the M.Tech. Program (MES). He is the first Nepalese student to join IIT Mandi.
- Mr. Milon Kundar and Ms. Arzena Khatun joined IIT Mandi in the Ph. D. program in the School of Basic Sciences. They are the first students from Bangladesh to join IIT Mandi.
- Mr. Sabin Kafley from Nepal joined IIT Mandi as Ph.D. student in the School of Computing and Electrical Engineering.

In the last year, several IIT Mandi students visited different university partners abroad for semester-exchange. These include 1 student who went to Aalto University, Finland, 4 who are in TU Munich, Germany, at present, and 1 who is at RWTH Aachen, Germany, at present.

A large number of IIT Mandi faculty also visited institutions in Europe, North America, Australia, South Asia, and Latin America in 2017-18 for attending conferences and for industry and academic collaborations. IIT Mandi faculty members also visited TU9 institutions in Germany in 2018 under the BMBF-IIT Mandi faculty exchange program.

Besides these international students, more than 35 international faculty members visited IIT Mandi for teaching, research, and for presenting their research at different workshops and conference events held on IIT Mandi campus. There were several meetings and events held on IIT Mandi campus involving visitors from universities abroad. These include the following:

- **BMBF TU9-IIT Mandi Workshop on "Current Trends in Analog Circuit Designing"**

  As a part of TU9-IIT Mandi exchange programme, IIT Mandi and TU-Berlin organized a BMBF funded workshop on "Current Trends in Analog Circuit Designing" on 25th-26th September 2017. The workshop was organized by Dr. Hitesh Shrimali (IIT Mandi) and Prof. Friedel Gerfers (TU-Berlin).

- **Conference on Spectroscopy of Emerging Functional Materials (SEFM-2017)**

  School of Basic Sciences, IIT Mandi and Advanced Material Research Center, IIT Mandi organized a conference on the Spectroscopy of Emerging Functional Materials between 9th October 2017 and 10th October 2017 at IIT Mandi campus. The conference was attended by approximately 120 participants including many eminent scientists of the country and abroad working in this area such as Prof. Tonu Pullerits (Lund University, Sweden), Prof. K. Gonsalves (IIT Mandi) and Dr. Khadga J. Karki (Lund University).

- **National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics (NCVPRIPG 2017)**

  The Sixth National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics (NCVPRIPG 2017) was held at IIT Mandi from 16th December 2017 to 19th December 2017. Dr. Guna Seetharaman from Naval Research Laboratory, USA, was the General Chair.

- **National workshop on "Bioprocessing for Energy and Carbon from Agro Residues (BECAR-2018)"**

  A national workshop on "Bioprocessing for Energy and Carbon from Agro Residues (BECAR-2018)" was organized by the School of Basic Sciences IIT Mandi between 23rd January 2018 and 24th January 2018. The workshop was supported by IIT Mandi and DBT-BMBF (Indo-German) project between IIT Mandi and TU9 Germany. Notable experts like Dr. Anuj K Chandel (University of Sao Paulo-Brazil), Mr. S.P. Jeevan Kumar (ICAR Mau) and Dr. Swati Sharma (KIT, Germany) presented their ongoing DBT-BMBF project work at this event.

4. SPONSORED RESEARCH AND INDUSTRY INTERACTIONS

This year marked a significant increase in the number of sponsored research projects and total funding. The total number of projects sanctioned till date is 182 with a total sanctioned amount of Rs. 80+ crores.

A project titled “Smart Agriculture: Farmer Zone” worth INR 9.47 Crore has been sanctioned by DBT. IIT Mandi's share in this project is INR~7.5 crore, which is the largest grant awarded to IIT Mandi till date. IIT Mandi is the lead institution overseeing the integration of science, technology, innovation and farm ecosystem for effective agricultural decision making to address food scarcity and build a sustainable future in India. This project is being led by Dr. Srikant Srinivasan, SCEE and Dr. Shyam Masakapalli, SBS in collaboration with several domestic and international partners from the US and UK. Prof. Timothy Gonsalves is the national coordinator for the execution of this project. Currently the project is already serving 1000 potato farmers spanning Punjab and UP in the 6 months since inception, providing advisories on crop yield, pests and plant varieties delivered directly to farmers through mobile apps.

5. BUSINESS INCUBATION

IIT Mandi Catalyst, a Technology Business Incubator (TBI) on campus, has been successful in attracting entrepreneurs from many parts of the country in last couple of years. Catalyst is all set to be a favoured startup destination that offers a low-cost, peaceful and picturesque environment to early stage startups. Since Jan 2017, Catalyst has committed and disbursed over INR 45 lakhs to startups in the form of grant and seed fund. These startups have generated 31 employment and 11 internship opportunities for young aspiring professionals. As of October 2018, Catalyst has 15 commercial and social /or impact startups in its portfolio from different sectors that include Agrotech, Ad Tech, Solar Installation, Healthcare, Consumer Internet, Food & Beverage, Advertising, Travel management, Media & Communication, Road Safety, Edutech and Disaster management. To coach and mentor the startups, Catalyst has hosted over 40 mentor sessions in last one year for two batches of startups admitted in Sep 2017 and July 2018.

The 2nd Edition of Himalayan Startup Trek, an annual event of IIT Mandi Catalyst, organized in April 2018, attracted a lot of attention at national level from startup ecosystem players. IIT Mandi hosted about 35 speakers, 40 startups and had a footfall of over 200 during this two dayevent.Notable achievements of catalyst supported startups and their founders include the following:

1. The Solar Labs, founded by our alumni and the first startup admitted to Catalyst, won third position during Schneider Electric Awards at Singapore in September 2018.
2. Catalyst incubated startups like Med Samaan and 4Play have won entrepreneurship related awards given by the HP state government, the IMF Mountain Film Festival in Goa, the O Orange Flower Awards 2017 and other recognitions.
3. UG Fresh, a faculty led startup, was selected for Festival of Innovation and

Entrepreneurship Exhibition (FINE) in Rashtrapati Bhavan in March 2018.

In next few years, Catalyst is going to focus majorly on developing entrepreneurship ecosystem in the state of Himachal Pradesh and in Himalayan region. Catalyst plans to make a focused attempt to encourage entrepreneurship in Himalayan region and to enable solutions for social or economic problems. I hope that startup-faculty collaborations increase in years to come and more of our own students at IIT Mandi opt for entrepreneurship as a career option to take advantage of the support being provided by IIT Mandi through Catalyst.

6. CAMPUS DEVELOPMENT

The South campus of IIT Mandi has been developed with great success, and presently about 40,000 sq. mt. area stands constructed. 760 students along with 66 faculty members are residing in the South Campus. This is the first Convocation we are holding in the North Campus. As you can see for yourself, this campus is being developed at great speed. About 50,000 sq. mt. area stands constructed and remaining 80,000 sq. mt. shall be completed by 2019. Around 600 students and 69 Faculty/Staff are residing in this campus at present. Our 88 rooms Guest House is functional, and was put to good use during the recently concluded 3rd Himachal Pradesh Science Congress. The Sports Complex and Hospital are almost ready. There are plans to develop a Hockey field, Tennis courts, a Basketball court and a Volleyball. A bridge Connecting North Campus from Ghoda Farm and a Cycle path connecting the North with the South Campus has also been planned and consultancy work is in progress. Work to construct about 20,000 sq. mt. academic buildings in the North Campus, a hostels for 500 students as well faculty residences in the South Campus is about to begin shortly.

7. EXTRACURRICULARACTIVITIES

IIT Mandi has developed a vibrant culture of learning as well as imbibing life-lessons through participation in competitive as well as non-competitive activities. I am happy to report the following achievements of our B.Tech. students.

1) In the Inter IIT Cultural Meet at IIT Kanpur in December 2017, the IIT Mandi team secured first place in the 'Art of Photoshop' event. This event witnessed participation by 18 IIT's students.

2) Mr. Nitesh Kumar, our sports champion, added several feathers to his cap as he:

   a) Won the Bronze medal in singles event and qualified for quarter finals in men's doubles and mixed doubles events in the 4th Turkish Para Badminton International Enes cup 2018.

   b) Won the Silver medal in men's doubles in the Dubai Para Badminton International championship held between 11th-15th April, 2018.

   c) Won the Bronze medal in the 2nd National Para Badminton Championship 2018 held at Varanasi between 23rd-25th March 2018.

   d) Won the Bronze medal in the 3rd Asian Para Games, Indonesia, in October 2018.

4) Mr. Tanmay Rustagi, a 1st year B.Tech. student, secured first position in the Himachal Pradesh State Ranking Table Tennis Championship-2018 in Under 21 Boys competition.

5) IIT Mandi hosted an inter-college sports festival, Rann Neeti, between 30th September-2nd October 2018. Over 850 students from colleges in HP, Haryana, Punjab, Rajasthan and Delhi participated in 9 different sports, facilities for all of which we have here: Basketball, Football, Cricket, Volleyball, Tennis, Table-Tennis, Athletics, Badminton and Chess. IIT Mandi won the overall championship award.

In additional to these notable achievements, the academic calendar was abuzz with a wonderful array of special events including EXODIA (the annual tech-cult fest of IIT Mandi), VIBGYOR (the art festival), ANUSANDHAN (research fair) and AAGAZ (the annual inter-year sports tournament) Rann Neeti. The Hiking and Trekking Club organised treks to Rani Sui Lake, Chandra Taal and other places in Himachal, thus taking full advantage of our spectacular location.

CONCLUSION

Each Convocation is a time for celebration as our Institute sends forth its best and brightest into the real world where they have to – and will – prove their mettle against competition from all over the globe. It is also a time for commending the entire campus community as their collective efforts make the annual renewal of the Institute – in terms of students, ideas, products – possible. At the same time, it is a time for stock-taking. In my report I have focused on our achievements in the recent past. I hope this will inspire all of your to set the bar even higher next year.

SCHOOLS

Currently, IIT Mandi has four schools. The institute encourages multi- and inter-disciplinary research for a balanced growth of its students and scholars. Hence, the labs and other resources of the schools are mixed and shared with each other. Subject specialist faculties are proactively dedicated to improve the schools continuously. IIT Mandi has national and international linkages and practices collaborations with leading and developing institutes and industries.

School of Computing and Electrical Engineering

This School brings together faculty involved in the key technologies of the Information Age. These include computer science, communication, VLSI and microelectronics, and electrical energy. The underlying fundamental principles are information theory, theory of computation, communication theory, quantum mechanics and the laws of electromagnetism.

Faculty members and their specialization

Dr. Bharat Singh Rajpurohit (Chairperson; Associate Professor; Electrical Power)

Dr. Ankush Bag (Assistant Professor; Semiconductor Devices, Epitaxy and Compound Semiconductors)

Dr. Aditya Nigam (Assistant Professor; Biometrics, Computer Vision, Image Processing)

Dr. Anil K. Sao (Associate Professor; Image processing)

Dr. Arnav Vinayak Bhavsar (Assistant Professor; Image analysis, Computer vision)

Dr. Arti Kashyap (Associate Professor (Joint Appointment); Magnetism and magnetic materials)

Dr. Astrid Kiehn (Visiting Associate Professor; Distributed Algorithms,Verification, Theoretical Computer Science)

Prof. B. D. Chaudhary (Emeritus Professor; Software Technology)

Dr. Bhakti Madhav Joshi (Assistant Professor; AC drives and control)

Prof. Deepak Khemani (Professor on deputation from IIT Madras; Artificial Intelligence)

Dr. Dileep A. D. (Assistant Professor; Pattern Recognition, Kernel Methods for Pattern Analysis, Machine Learning, Speech Technology, Computer Vision)

Dr. Gopi Srikanth Reddy (Assistant Professor; Communications, Antennas and Wave Propagation, RF and Microwave Passive component Design)

Dr. Hiteshbhai Kantilal Shrimali (Assistant Professor; Analog and Mixed signal VLSI design, analog-to-digital converters and design of radiation hard circuits (space application)

Dr. Kunal Ghosh (Assistant Professor; Solar Photovoltaics)

Dr. Narendra Krishna Karmarkar (Visiting Distinguished Professor, Algorithms).

Dr. Narsa Reddy Tummuru (Assistant Professor; Hybrid Energy Storage Applications in Future Microgrids, Efficient Power Electronic Interfaces in Renewable Energy Applications and Smartgrid Communication Networks)

Dr. Padmanabhan Rajan (Assistant Professor; Speech processing, speaker recognition)

Prof. Rajan Kapur (Adjunct Professor, Renewable Energy, Industrial Electronics, Head Mounted Displays)

Dr. Rahul Shrestha (Asst. Professor; VLSI Design and Circuits & Systems for Signal Processing and Wireless Communication)

Dr. Ramesh Oruganti (Emeritus Professor; Power Electronics, Solar photovoltaic energy systems)

Dr. Renu M. Rameshan (Assistant Professor; Image Processing)

Dr. Samar Agnihotri (Assistant Professor; Information Theory, Wireless Communications)

Dr. Satinder Kumar Sharma (Associate Professor; Nano-electronics, Sensors, Photovoltaic & self-assembly)

Dr. Satyajitsinh Ajitsinh Thakor (Assistant Professor; Communication Theory, information Theory, Network Coding)

Dr. Shubhajit Roy Chowdhury (Assistant Professor; Biomedical Embedded Systems, Non-invasive diagnostic systems, Near Infrared Spectroscopy, VLSI Architectures)

Dr. Siddhartha Sharma (Assistant Professor, Resource allocation in Wireless Networks, Wireless Energy Harvesting and Crowd sensing)

Dr. Srikant Srinivasan (Assistant Professor, Big-Data acquisition and analysis, Nano electronics, Spintronics)

Dr. Sriram Kailasam (Assistant Professor; Distributed Systems, Cloud Computing)

Prof. Timothy A. Gonsalves (Professor; Computer networks and distributed software systems)

Dr. Tushar Jain (Assistant Professor; Control theory, fault tolerant control, industrial process control)

Dr. Varun Dutt (Assistant Professor (Joint Appointment in SCEE and SHSS); Artificial intelligence, Human-Computer Interaction, Judgment and Decision)

Prof. Yvonne Dittrich (Adjunct Professor; Software Development and Software Engineering)

Dr. Pooja Vyavahare (DST INSPIRE Faculty Fellow; Distributed Computation, Network Analysis, Algorithm Design)

School of Basic Sciences

This School includes Mathematics, Physics, Chemistry and Life-Sciences. While some faculty may work in pure research, others work on applied research in collaboration with colleagues in the Engineering Schools.

Faculty members and their specialization

Dr. Syed Abbas (Chairperson; Associate Professor; Difference equations, stochastic control)

Dr. Subrata Ghosh (Associate Professor; Organic Chemistry)

Dr. Suman Kalyan Pal (Associate Professor; Fast and Ultrafast Laser Spectroscopy)

Dr. Aditi Halder (Assistant Professor; Design and Development of New Functional Nanomaterials for the application of Renewable Energy, Nano-Electronics and Sensors)

Dr. Ajay Soni (Assistant Professor; Nanomaterials and Experimental Condense Matter Physics)

Dr. Amit Jaiswal (Assistant Professor; Nano-Biotechnology)

Dr. Amit Prasad (Assistant Professor; Immunology/Microbiology)

Dr. Aniruddha Chakraborty (Associate Professor; Theoretical Chemistry)

Dr. Arti Kashyap (Associate Professor; Magnetism and Magnetic Materials)

Dr. Bindu Radhamany (Associate Professor; X-ray spectroscopy)

Dr. C. S. Yadav (Assistant Professor; Low Temperature Physics)

Dr. Chayan K. Nandi (Associate Professor; Physical Chemistry)

Dr. Hari Varma (Associate Professor; Atomic and Molecular Physics)

Dr. Kaustav Mukherjee (Assistant Professor; Experimental Condensed Matter Physics)

Prof. Kenneth Gonsalves (Visiting Distinguished Professor; Materials Synthesis)

Dr. Manoj Thakur (Associate Professor; Optimization, Soft Computing, Machine Learning & its applications to Computational Finance)

Dr. Muslim Malik (Assistant Professor; Differential Equations)

Dr. Nitu Kumari (Assistant Professor; Applied Mathematics)

Dr. Pradeep Kumar (Visiting Assistant Professor; Raman and Infrared Spectroscopy)

Dr. Pradeep Parameswaran (Associate Professor; Inorganic, Materials, Nano-Chemistry)

Dr. Pradyumna Kumar Pathak (Assistant Professor; Quantum Optics, Quantum Information and Nanophotonics)

Dr. Prem Felix Siril (Associate Professor; Chemistry of Nanomaterials)

Dr. Prosenjit Mondal (Assistant Professor; Molecular Endocrinology and Metabolism)

Dr. Rajanish Giri (Assistant Professor; Biophysics and Protein Folding, Intrinsically Disordered Proteins, Chimeric Antigen Receptor based Cancer Immunotherapy, Protein Engineering)

Dr. Rajendra K. Ray (Associate Professor; Computational Fluid Dynamics, Numerical Methods for PDEs)

Dr. Sarita Azad (Assistant Professor; Statistical Time Series Analysis)

Dr. Shyam Kumar Masakapalli (Assistant Professor; Metabolic Systems Biology – Fluxomics and Metabolomics, Plant and Microbial Metabolism, NMR and GC- MS)

Dr. Prasanth P. Jose (Assistant Professor; Soft condensed matter physics)

Dr. Tulika Prakash Srivastava (Associate Professor; Bioinformatics, Systems Biology, Metagenomics, Comparative Genomics, Protein Function, and Structural Analysis)

Dr. Venkata Krishnan (Associate Professor; Materials Chemistry, X-ray Science)

Dr. Kalpesh Haria (Assistant Professor; Operator Theory)

Dr. Qaiser Jahan (Assistant Professor; Harmonic and Wavelet Analysis)

Dr. Ketaki Ghosh (Teaching Fellow, Synthetic Organic Chemistry)

Prof. Arghya Taraphder (Professor on deputation from IIT Kharagpur; Advanced areas of solid State Physics)

Dr. Neha Garg (DST INSPIRE Faculty Fellow; Cancer Biology, Stem Cells)

Dr. Sweta Tripathi (Ramalingaswami Faculty Fellow; Virology, Innate Immunity, Cancer Biology)

School of Engineering

This School covers tangible physical structures and artifacts such as transport vehicles, transport systems, machines, materials, manufacturing, designs etc. The underlying principles are classical mechanics, atomic physics, and thermodynamics. Many faculties from the traditional departments of Mechanical, Civil, Aerospace, and Metallurgy Engineering are a part of this School.

Faculty members and their specialization

Dr. Rajeev Kumar (Chairperson; Associate Professor; Solid Mechanics, Vibration, FEM, Optimization)

Dr. Rahul Vaish (Associate Professor; Materials Engineering)

Dr. Atul Dhar (Assistant Professor; Alternative Fuels & Emission Control)

Dr. Arpan Gupta (Assistant Professor; Acoustics, Vibration, Bio-mechanics, Computational methods-FEM, CFD, Lattice Boltzmann Method)

Dr. Deepak Swami (Assistant Professor; Groundwater Flow and Transport Modelling, Water Resources Development and Management, Disaster Mitigation specially related to Floods and Flash flood)

Dr. Dericks Praise Shukla (Assistant Professor; Remote Sensing & GIS, Hydro-geo-chemistry, Water contamination mostly as and other Heavymetals, Natural Hazards Assessment and Mapping)

Dr. Gaurav Bhutani (Assistant Professor; Fluid and thermal sciences)

Dr. Himanshu Pathak (Assistant Professor; Extended Finite Element Method, Meshfree Methods, Fracture Mechanics and Functionally Graded Materials)

Dr. Jaspreet Kaur Randhawa (Assistant Professor; Nanomaterials)

Dr. Kasiviswanathan K S (Assistant Professor; Water Resources Engineering)

Dr. Kaustav Sarkar (Assistant Professor; Durability Design of Concrete, Sustainable Concrete Production, Finite-Element Analysis, Soft-computing)

Dr. P. Anil Kishan (Assistant Professor; Computational Fluid Dynamics)

Dr. Maheshreddy Gade (Assistant Professor; Earthquake Engineering and Engineering Seismology)

Dr. Mousumi Mukherjee (Assistant Professor; Geotechnical Engineering)

Dr. Mohammad Talha (Assistant Professor; Solid Mechanics, Composite Structures, Functionally

Graded Materials, Structural Mechanics)

Dr. Pradeep Kumar (Assistant Professor; Fluid and Thermal Science)

Dr. Rajesh Ghosh (Assistant Professor; Solid Mechanics, Biomechanics, Finite Element Analysis)

Dr. Rajneesh Sharma (Assistant Professor; Image based Finite element Methods, Cohesive Zone Modeling, Insitu Characterization of Fracture Process, Homogenization and Multiscale Modeling, Analysis and Design of Composites under Extreme Loading Environments)

Dr. Rik Rani Koner (Assistant Professor; Hybrid Material)

Dr. Sandip Kumar Saha (Assistant Professor; Earthquake Engineering)

Dr. Satvasheel Ramesh Powar (Assistant Professor; Dye-sensitized Solar Cells, Perovskite Solar Cells)

Dr. Subrata Ray (Distinguished Visiting Professor; Physical metallurgy, Composites and Tribology)

Dr. Subhamoy Sen (Assistant Professor; Structural Engineering)

Dr. Sudhir Kumar Pandey (Assistant Professor; Condensed Matter Physics & Material Science)

Dr. Sumit Sinha Ray (Assistant Professor; Filtration and Separation, Heat Transfer, Energy Storage)

Dr. Sunny Zafar (Assistant Professor; Microwave Material Processing, Surface Engineering, Experimental Tribology and Advanced Welding and Manufacturing Processes)

Dr. Venkata Uday Kala (Assistant Professor; Geotechnical Engineering)

Dr. Viswanath Balakrishnan (Assistant Professor; Growth of Functional Materials/Thin Films,Electron Microscopy & in-situ Exploration of structure-property Relationships)

Dr. Vishal Singh Chauhan (Assistant Professor; Design Engineering, Electromagnetic Radiation during Deformation of metals and alloys, Solid Mechanics, FEM)

Dr. Ajit P. Annachhatre (Visiting Professor;Environmental Engineering)

Dr. Balthasar Novák (Adjunct Professor; Civil Engineering)

Dr. Satish Chandra Jain (Emeritus Professor; Vibration, Noise, Tribology and Computer Aided Design**)**

School of Humanities and Social Sciences

Modern engineers work in teams to create, improve and apply technology for the good of society. A good understanding of language, culture, sociology, economics, management, ecology, etc. is essential for the well-rounded engineer and development of technologies, products and processes that will see widespread use. This School is thus an important part of IIT Mandi.

Faculty members and their specialization

Dr. Rajeshwari Dutt (Chairperson; Assistant Professor; Latin America, Social and Cultural History, Indigenous studies)

Dr. Aruna Bommareddi (Assistant Professor; Comparative Literature, Indian Literatures in English)

Prof. Bhavender Paul Sharma (Adjunct Professor; Management Strategy, Managerial Finance, Biotechnology & Pharmaceutical Technology)

Dr. Devika Sethi (Assistant Professor; Modern Indian History, Colonialism and Decolonization, Free Speech and Censorship)

Dr. Gokul Somasekharan (Teaching Fellow; Specialization: German Literature)

Dr. Ingrid Shockey (Adjunct Associate Professor; Environmental Sociology)

Dr. Manu V. Devadevan (Assistant Professor; Literary practices in South Asia, Political and economic processes in pre-modern South Asia & South Asian Epigraphy)

Dr. Puran Singh (Assistant Professor; Corporate Finance, Microfinance)

Dr. Ramna Thakur (Assistant Professor; Development Economics)

Dr. Shyamasree Dasgupta (Assistant Professor; Energy and Environmental Economics)

Dr. Suman (Assistant Professor; Colonialism, Post-colonialism, Imperialism, and Romance Literature)

Dr. Surya Prakash Upadhyay (Assistant Professor; Sociology of Religion, Urban Sociology, Post-Reform India, Economic Processes in Pre-modern South Asia & South Asian Epigraphy)

Dr. Varun Dutt (Assistant Professor (Joint Appointment in SCEE and SHSS); Judgment and Decision Making, Environmental Decision Making, Artificial Intelligence, Human-Computer Interaction)

Dr. Balasundaram Subramanian (Adjunct Professor, German Studies and Political Philosophy)

Medals and Prizes

PRESIDENT OF INDIA GOLD MEDAL (Joint)

Ms. Neha Muthiyan
B14113
Computer Science and Engineering

Mr. Siddhant Kumar
B14133
Computer Science and Engineering

INSTITUTE SILVER MEDALS

Mr. Patel Shravan Rajnarayan
B14225
Computer Science and Engineering

Mr. Pulkit Rajgadiya
B14226
Electrical Engineering

Mr. Aakashdeep
B14301
Mechanical Engineering

RANI GONSALVES MEMORIAL MEDAL

Ms. Neha Muthiyan
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OUTSTANDING ACADEMIC ACHIEVEMENT AWARDS

Mr. Nishant Dhiman
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M.Sc Chemistry

Mr. Bhisham Dev Verma
V16045
M.Sc Applied Mathematics

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Master of Science (M.Sc. Chemistry)

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V16011	ANCHALA
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V16015	VARNIKA
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Master of Science (M.Sc. Mathematics)

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V16042	ANJALI
V16043	SRISHTI
V16044	GARIMA DAHIYA
V16045	BHISHAM DEV VERMA
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V16047	SHUBHAM KHANSILI
V16048	MOHNISH P.
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V16050	NARESH KUMAR
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Master of Science (by Research)

ROLL NO.	NAME
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S14004	PUNIT KUMAR
S14005	KUMAR GAURAV
S14010	SANJAY SINGH TOMAR
S15002	SRISHTI GAUTAM
S15005	ABHISHEK VISHWANATH BANGUNDE
S15009	SARTHAK NAG
ERPS1301	MANISH VAISH
S15010	HARSHA MATHUR

Master of Technology (M.Tech. SE)

ROLL NO.	NAME
T16001	AYUSHI MISHRA
T16003	ABHISHEK ANAND
T16004	AKASH KUMAR
T16005	AKHALESH SHARMA

Master of Technology (M.Tech. VLSI)

ROLL NO.	NAME
T16041	INDU KUMARI
T16042	SUMIT KUMAR PANDEY
T16043	PUNEET ARORA
T16044	POOJA BANSAL
T16046	PRATEEK KUMAR SONKER
T16047	BANAVATH RAJU NAIK
T16049	ABHIJIT SAHOO
T16050	SHIVENDRA KUMAR RATHAUR

Master of Technology (M.Tech. Bio-Tech)

ROLL NO.	NAME
T16071	JYOTSNA PRIYAM
T16072	ANTARA MUKHOPADHYAY
T16073	DIVYA DHASMANA
T16074	RUPTANU BANERJEE
T16075	ANKUR SINGH
T16076	SOM DUTT
T16077	KAMATAM VENKATA LINGARAO KOTI
T16078	NILESH KUMAR DIXIT

Doctor of Philosophy

ROLL NO.	NAME
D12064	SOHAL LAL
D11038	ABHISHEK KUMAR GUPTA
D12068	SANDEEP SHARMA
D13008	VINAYAK ABROL
D14011	SYAMANTAK KHAN
D12069	PANKAJ NARULA
D12049	GOURAB DEY
D12065	ABDUS SALAM SARKAR
D13003	NEERAJ SANKHYAN
D11036	JALIM SINGH
D12075	PULKIT SHARMA
D12052	TRIPTI VATS
D14019	NIDHI BARANWAL
D11041	DEEPAK KUMAR
D12053	MOHIT CHAWLA
D14036	FARIA REHMAN
D11030	RAJIV KUMAR MAURYA
D12082	SAURABH SINGH
D12088	VIPUL SHARMA
D12070	SUBIT KUMAR JAIN
D12056	K. LINGESHWAR REDDY
D14018	AVDHESH KUMAR
D14010	P. GURU PRASAD REDDY
D12054	MANGILI VENKATESWARULU
D12087	NEHA SHARMA
D13016	SANJAY RATHEE
D12071	SURAJ SHANKARLAL MEGHWANI

CONVOCATION DRESS

The festive character of a convocation is emphasized by the convocation dress.

IIT Mandi's new convocation attire references its location in the Himalayan region. It consists of a cape and a Himachali cap. On both cape and cap, a *patti* [woven border] is appliqued specially designed for IIT Mandi. The pattirefers to the colors of IIT Mandi logo: orange, blue and green. The green parts of the *patti* symbolize vegetation and mountains, the blue parts rivers and limitless sky, and with orange colour paths and energy. The zig-zag pattern is typical for the region.

The base colors of the gowns represent the following categories: Gold: dignitaries; Blue: faculty; Orange: Ph.D. students; Green: M.Sc., MS and M.Tech. students; Black: B.Tech. students. With this color code the tradition set by the earlier convocation dress is maintained.

The gown has been designed by the Convocation Gown Committee of IIT Mandi and been produced with the help of local tailors, weavers and vendors.

IIT MANDI GRADUATES' PLEDGE

We, the graduates and post-graduates of the Indian Institute of Technology Mandi, hereby pledge That we will be scrupulously honest in all our activities and act with integrity at all times to uphold the honour and dignity of our profession and of our Institute; That we will actively protect and promote the well-being of our environment; That we will uphold and promote the unity and secular ideals of our country; That we will utilize our knowledge in the service of our country in its march towards a just, inclusive, and sustainable society.

VALEDICTORIAN'S ADDRESS

A very good evening to one and all present here for the 6th Convocation Ceremony of IIT Mandi.

On the behalf of batch of 2018, it gives me immense pleasure to extend a warm welcome to respected Chief Guest, Prof. Ashok Jhunjhunwala, Guest of Honour Mr. Sonam Wangchuk,Chairperson Board of Governors, IIT Mandi, and Former Chairman Tata Communication Limited Shri Subodh Bhargava, Director IIT Mandi, Prof. Timothy Gonsalves, members of board of governors and members of Senate, distinguished guests, family members of graduating students, faculty and staff members, and my dear friends.

Today, I want to take you all back in time to the 4th day of August 2014. It was our first day at IIT Mandi and I recall how reluctantly I was sharing my fear of the huge mountains and narrow roads in one of the fresher's speech. Who knew that waking up to these mountains will be the first thing I will miss after leaving IIT Mandi. I also distinctly remember my father asking me whereabouts of academic buildings in the campus and in a total confused state I pointed him towards the A1 building. Of course there was more than just one academic building in the campus at that time but we have surely grown from a handful of them to huge complexes coming up in the North campus. However, the 4 years we spent at IIT Mandi were more than just the number of buildings in the campus.

Since our first day at this place we became a part of a close knit family where you knew every other person in the campus. I remember the endless nights we spent to find different ways to surpass the institute network restrictions and here are some of us now, building network & security systems for big companies. From crazy teenagers to professionals we have all come a long way. Not only do we graduate and get our degree today but we takeaway 4 year worth of life lessons and memories with us. During our time here, it almost always rained cats and dogs during festivals and special occasions, ruining all the festivities.

However, it taught us no matter how bad the present might be, life goes on and so should we because the sun is going to come out soon.With the guidance of our senior batches, the faculty members and the staff, our batch played a small role in helping the institute grow. Be it research publications, setting new placement records, helping start the GSOC culture and volunteering to organize Exodia and Rann-Neeti in the most adverse situations. I strongly urge the upcoming batches to continue this culture and contribute more to it. This institute is always going to be a major part of what we are and what we become. Our future and the future of IIT Mandi are tied

together. We are the representatives of IIT Mandi for the outside world and it is upon us now to raise the institution to new heights.

Finally, I would like to leave you with few thoughts that I take away from this place. The first one is don't let your fear hold you back. Had I succumbed to my fears on my first day at IIT Mandi and went back home I wouldn't have been standing here so happy and satisfied. There are very small things in our life as trivial as the fear of talking to someone and somehow instead of fighting the fear we get comfortable with it. It will be years before you realize how you have changed your life according to your fears and missed out on great experiences. Always ask yourself 'What would I do if I weren't afraid?'.

The last thing that I want to share is very trivial but somehow very important. I am sure we all have been to the amazing treks arranged by the institute and a trek is full of ups and downs. Life is full of good times and bad times but it is the bad times which open our eyes to our capabilities and give us a stronger sense of who you are. In times of frustration, remember to believe in yourself and all the dreams you want to achieve because these challenges will only prepare you for your goals. Everything can fall apart and go wrong but the one thing that stays with you is your faith in yourself. So instead of running away from challenges, embrace them and get closer to your dreams.

Finally, it has been a wonderful journey and I am sure that the memories of this place will always bind us together.

Best wishes to all of you for your future endeavors!

Thank You!

Neha Muthiyan
B14113

CONVOCATION COMMITTEES

Dr. Vishal Singh Chauhan	Coordinator and Committee Chair
Dr. Manoj Thakur	Coordinator
Dr. Rajesh Ghosh	Chair
Dr. Shyam K. Maskapalli	Chair
Dr. Suman Kalyan Pal	Chair
Dr. Pradeep Parmeswaran	Chair
Dr. Kaustav Sarkar	Chair
Dr. Deepak Khemani	Chair
Dr. Prosenjit Mondal	Chair
Dr. Bharat Singh Rajpurohit	Chair
Dr. Chander Singh	Chair
Mr. Hardeep Singh	Chair
Dr. Varun Dutt	Team Leader
Dr. Hari Verma	Team Leader
Dr. Amit Prasad	Team Leader
Dr. Syed Abbas	Team Leader
Dr. Arpan Gupta	Team Leader
Dr. Astrid Kiehn	Team Leader
Dr. Anil K. Sao	Team Leader
Dr. Rahul Vaish	Team Leader
Dr. Narsa Reddy	Team Leader
Dr. Dericks P. Shukla	Team Leader
Dr. Hitesh Shrimali	Team Leader

Dr. Devika Sethi	Team Leader
Mr. Vivek Tiwari	Member
Mr. Parminderjit Singh	Member
Mr. Anuj Dubey	Member
Ms. Aditi	Member
Mr. Aditya	Member
Dr. Pradeep Kumar (SBS)	Member
Dr. Rajnish Giri	Member
Dr. Himanshu Pathak	Member
Mr. Pavin Samuel	Member
Mr. Rakesh Bhatt	Member
Mr. Hardeep Singh	Member
Mr. Ashok Pathania	Member
Dr. Gokul Somasekharan	Member
Dr. Qaiser Jahan	Member
Dr. Jaspreet Randhava	Member
Dr. Mahesh Reddy Gade	Member
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Dr. Manu Devadevan	Member
Dr. Ankush Bag	Member
Mr. N. S. Bhandari	Member
Mr. Khushi Ram Bhagat	Member
Mr. Anoop Kumar	Member
Mr. Prateek Pathania	Member
Mr. Leeladhar	Member

Dr. Aditya Nigam	Member
Dr. M. Talha	Member
Dr. Satvasheel Powar	Member
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Dr. Ramna Thakur	Member
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Dr. Suman	Member
Dr. Padmanabhan Rajan	Member
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Dr. Atul Dhar	Member
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Dr. Sandip Saha	Member
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Er. Puneet Sharma	Member
Er. Deendayal	Member
Er. Navish	Member
Mr. Munna	Member
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Dr. Sunny Zafar	Member
Dr. Rajneesh Sharma	Member
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Mr. Chaman Lal	Member
Mr. Lal Chand	Member
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Dr. Shyamasree Dasgupta	Member
Ms. Monika Kashyap	Member
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Mr. Ramesh	Member
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Ms. Debashrita Roy Chowdhury	Member
Mr. Gopal Sharma	Member
Mr. B. R. Thakur	Member
Dr. Amit Jaiswal	Member

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