

THE COMPENDIUM

The Quarterly Bulletin of NIT Mizoram



About The Institute

NIT Mizoram came into being in the year 2010 along with 9 other new NITs established by MHRD, Govt. of India. The Institute commenced its academic activities at VNIT Nagpur. Afterwards, from July 2011 it started functioning from rented campus of Aizawl (Mizoram). The Institute embarked on its academic journey in 2010 with three departments *viz.* Electrical and Electronics Engineering, Electronics and Communication Engineering and Computer Science & Engineering. Department of Mechanical Engineering and department of Civil Engineering were started from 2013 and 2014 respectively. Presently, the Institute offers 5 undergraduate programmes, 3 post graduate programmes and Ph.D programmes in all the departments. The Govt. of Mizoram allocated land for the permanent campus at Lengpui about 5 km. from Aizawl airport and our campus is being constructed there.

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About The Director



Prof. Rajat Gupta joined as the Director of NIT Mizoram on July 3rd, 2017. He is also holding the additional charge of Director NIT Silchar, A National Scholarship holder and a PhD in Engineering from Indian Institute of Technology, Delhi, Prof. Rajat Gupta is a Professor of Department of Mechanical Engineering of NIT Silchar since 1996. As a man of distinct vision and epitome of strength Prof. Rajat Gupta, successfully completed his 5 years of tenure w.e.f October 2011 to October 2016 as the Director, NIT Srinagar. NIT Mizoram is equally privileged to have him as a Director of the Institute. The initiative to publish this bulletin was his brain child. His keen interest, active support, suggestion and regular interaction turned the idea into a reality.

Director's Meetings with the Hon'ble Governor and the Hon'ble Chief Minister of Mizoram



Events @ NIT Mizoram

Orientation Programme



The Institute organized the Orientation Programme for the newly admitted students under the able guidance of Prof. Rajat Gupta, Director NIT Mizoram on 4th August 2017. This was the first time when orientation programme was conducted at NIT Mizoram. The objective of the programme was to make the parents and students aware of the

academic aspects of the course, the rules and regulations of the Institute and ensuring parental participation in monitoring the performance and progress of the students. The newly admitted students were addressed and welcomed by the Director of the Institute. He advised the students to be focused towards the goal in order to achieve a remarkable career. All the HODs also presented a brief overview of their departments.

Unnat Bharat Abhiyan

Along with the coordinator Dr. P. Ajmal Koya, co-coordinator Dr. H. Lalhmingsanga and other faculty members of UBA team of NIT Mizoram visited the Lengpui village to conduct Village and household survey on 11–12 August 2017. The Lengpui village council members heartily welcomed the UBA team of the Institute and extended all possible help to conduct the survey successfully. Village Council President provided the data about the village and after which household survey was conducted from individual houses.



Independence Day Celebration

This year Independence Day was celebrated in a very grand manner in the lush green ground of Shihmui, Lengpui. It was attended by all the students & staff of the Institute. The Director hosted the National Flag. A colourful parade was presented by the students and security staff of the Institute. The Director, in his

speech urged upon the students & staff of the Institute to work towards the development of the Nation with utmost dedication and honesty. He further emphasized to bring NIT Mizoram within 100 Engineering Institutes of the country in NIRF in the coming years. All the students and staff took oath to work for the country selflessly. Various activities including cricket match, musical chair etc were conducted. The celebration ended with prize distribution ceremony.



A Week-long Celebration of 70 Years of Independence and 75 Years of Quit India Movement

NIT Mizoram celebrated 70 years of Independence and 75 years of Quit India movement. In this regard week-long program was organized from August 21st, 2017 to August 30th, 2017. Various activities based on the theme of Indian National Movement and Freedom Struggle were successfully organized in the Institute in which number of students participated in these activities with great zeal.



Cleanliness Drive inside Institute hostels event took place on August 21st, 2017. Under this event, hostel premises were cleaned by the faculty and students.

Group Discussion was held on August 25th, 2017. For this activity total, 6 groups were formed, each group comprising six students.

Run for Unity was organized on August 28th, 2017. The motto of this event was to disseminate the message that we are running to unite everyone irrespective of caste, creed, and religion.



Essay Writing Competition was held on August 23rd, 2017.



Debate Competition was held on August 30th, 2017.

Seminar on Opportunities for Home State Students at NIT Mizoram

Many home state seats at NIT Mizoram were lying vacant since its inception in 2010. realising the gravity of this issue, the Director Prof. Rajat Gupta took up the initiative to find out the root cause of this issue. A one day seminar was conducted by inviting 31 schools, 3 teachers (one each from Mathematic, Physics and Chemistry) from each school to exchange their views regarding the issue. In a slide show presentation the Director shared the percentage of vacant seats for home state for the last 7 years and appealed to all to address the issue.



Engineers' Day Celebration

NIT Mizoram observed the Engineers' Day, on 15th September, 2017 to commemorate the 156th Birth

Anniversary of Dr. M. Visvesvaraya. On this auspicious day, a seminar was held on the topic, “Role of Engineers’ in Developing India”. The programme was graced by the presence of Chief Guest and BOG Member, NIT Mizoram, Chief Engineer (Retd.), Mr. Vanlallianzuala, P.H.E Dept., Govt. of Mizoram and the Hon’ble Director of NIT Mizoram, Prof. Rajat Gupta.

The Chief Guest, Director, faculties, and students delivered lectures on the seminar topic. The Director and the Chief Guest discussed the role of engineers in developing India and also an emphasis on the role of NIT Mizoram in producing quality engineers. They also highlighted the role of the teachers to encourage the students to innovate in the field of engineering and make India a superpower. An essay competition was organized on the above-said topic. First, second and third prize were distributed to the winners. Mr. Amarnath Pathak, JRF & Ph.D. Scholar, Dept. of CSE won the first prize.



National Service Scheme (NSS)



In NIT Mizoram NSS was started on 29th August 2017 with an awareness program and was given 2 units with a strength of 200 students. The coordinators Dr. H. Lalhminganga and Dr. A. Sinha along with the student members of the team organized a cleanliness drive under the banner Aizawl City Cleanliness Cum NSS Foundation Day on 22nd September 2017.

Expert Talks by External Members

- ❖ Dr. Amitabh Chatterjee, Assistant Professor, Department of EEE, IIT Guwahati delivered lectures on IC technology for 1st Semester M. Tech (ECE) during 7th-10th September 2017.
- ❖ An Expert Talk and Interaction on Personality & Soft Skill Development and Graduate Employability: With Special reference to Engineering Students was held on 23rd September 2017. The talk was delivered by Dr. W. Chandbabu Singh, Professor, Manipur Institute of Management Studies, Manipur University.
- ❖ Dr. Paul Lalnunluanga, Assistant Professor, Department of Geology, Mizoram University delivered lectures on Engineering Geology for 7th Semester, CE, B. Tech students every Wednesday of September 2017.

- ❖ Dr. R. Lalthlamuana, Bridge Design Consultant, Asian Development Project Mizoram PWD, Aizawl delivered lectures on Building, Planning & Sustainable Construction for 7th Semester CE B. Tech students every Wednesday and Friday of September 2017.
- ❖ Dr. Sumon K. Sinha, Founder and President of Sinhatech, an Aerospace and Fluid Dynamics Research & Development Company in the USA delivered an expert talk on Development of Drones for Fast Goods Transport for hilly Mizoram Train on 26th September 2017.
- ❖ Dr. S N Joshi, Associate Professor, IIT Guwahati delivered an expert talk on Fundamentals and different techniques of laser-based forming of metals on 25th September 2017.

Representing NIT Mizoram

- ❖ A team of 5 students, accompanied by Mr. Pragati Singh Faculty department of ECE, participated in the 7th NIT Conclave at NIT Silchar from September 1st - 3rd, 2017. The NIT Conclave is a confluence of all the NIT's, where students get a platform to come together and discuss issues which directly affect the student fraternity. Apart from this it also serves as a platform where the brightest minds of our nation come and share their views with one another.



- ❖ Four students of ECE department namely Ashish Kumar, Ajupa Das, Debjani Dey and Parvin Sultana completed 4-week internship program from June - July 2017 on Networking at National Informatics Centre (NIC).
- ❖ Two students from each engineering department completed one-month Summer Internship program under Ishan Vikas at NIT Warangal from 15th June 2017 to 15th July 2017. It is MHRD initiative provides summer internship for college students studying in educational institutions in the North-East.

Library Orientation and Awareness Programme

This program was organized for newly admitted first semester students. A brief introduction was given by the Asst. Librarian regarding the activities, rules, and regulation of the Central Library.

Training and Placement Activities

An Advisory Committee of Training & Placement (T&P) Cell of NIT Mizoram has been formed for the session 2017 -2018, Prof. Rajat Gupta, Director, NIT Mizoram will act as Adviser & Chief Patron.

The Director has urged to organize quality improvement programmes on Communication Skill, Entrepreneurship Awareness Programmes and Motivational Lectures by eminent personalities. In conjunction with that, an event titled Expert Talk and Interaction on Personality & Soft Skill Development and Graduate Employability with special reference to engineering students was organized on 23rd September 2017 jointly with the Entrepreneurship Cell of the institute.

From August 2017 many of the companies have visited/ invited the students of NIT Mizoram for pool campus drives and many more are in the queue. As of now, a number of students have placed in companies like Johnson Control, Wipro Limited, L & T Construction, L & T Heavy Engineering, TVS Motors.

T&P Cell of NIT Mizoram has tied-up with other technical institutes of North-East India to provide placement for all students of the Institute.

Seminar/ Conferences

- ❖ Prof. Rajat Gupta, Director NIT Mizoram, delivered an invited talk on "What has been the knock-on impact of MOOCs on learning models and pathways?" at World Education Summit (WES) 2017, held on August 11th-12th, 2017 at Hotel Le Méridien in New Delhi, India.
- ❖ Dr. Shuchi, AP, English, chaired a session at an International Conference on Education, Social Sciences and Humanities SOCIOINT held in Dubai 10th -12th of July 2017.
- ❖ Dr. Chaitali Koley and Dr. Rudra Sankar Dhar visited Mizoram University from Aug 22nd - 23rd 2017, as a Resource Person to deliver a talk Nonlinear Dynamics of X-band Gunn Oscillators and its potential applications and High-Speed Semiconductor Devices.
- ❖ Dr. Alok Shukla, AP, Physics, presented a paper entitled Structural, Electrical and Magnetic Properties of Modified BiFeO₃, in Moscow International Symposium on Magnetism (MISM-2017), 15th July 2017, Lomonosov Moscow State University, Moscow, Russia.
- ❖ Mr. Ramesh Kumar, AP, EEE, attended two-week course ISTE STTP on Electric Power System, 10 – 15 July, NIT Silchar.
- ❖ Dr. Shuchi, AP, English, presented a paper entitled Conventional Vs Modern: Role of Information Technology in Improving Teaching Pedagogies, International conference SOCIOINT, 10-12 July 2017, Dubai.
- ❖ Mr. Nitin Kumar, Ph.D. Scholar, Physics, presented a paper entitled Processing and Characterization of Cd/Ti co-substituted BiFeO₃ Nanoceramics, International Conference on Advanced Materials Development & Performance (AMDP-2017), 11 - 15 July 2017, Department of Physics, Savitri Bai Phule Pune University, Pune, Maharashtra, India.
- ❖ Dr. P. Ajmal Koya AP, Chemistry, presented a paper entitled Effect of Glycine on the Micellization of Cationic Surfactants, 21st CRSI National Symposium in Chemistry, 13 - 16 July 2017, CSIR-Indian Institute of Chemical Technology, Hyderabad.
- ❖ Dr. A. Jamsheera, DST, Young Scientist, presented a paper entitled Synthesis, characterization and interaction studies of biologically significant Cu(II) and Zn(II) chromone schiff base complexes towards DNA, 21st CRSI National Symposium in Chemistry, 13 - 16 July 2017, CSIR-Indian Institute of Chemical Technology, Hyderabad.

- ❖ Dr. Pabitra Kumar Biswas, AP, EEE, attended one- week short term programme on Introduction to MATLAB, SIMULINK and GUI, 24 – 28 July, NITTTR, Kolkata.
- ❖ Dr. Abhijit Sinha, AP, ME, attended a GIAN course on Second Law Analysis of Thermal Energy Storage Systems at IIT Indore in July 2017.
- ❖ Dr. Surender Ontela, AP, Mathematics, presented a paper entitled Non-similar solutions for free convection in a doubly stratified fluid saturated non darcy porous medium with Soret-Dufour effects, 15th UK Heat Transfer Conference, 4 - 5 September 2017, Brunel University, London.
- ❖ Dr. Partha Pakray, AP, CSE, attended a Faculty Development Program during 11 – 16 September 2017, on Parallel Programming for High Performance Computing at Supercomputer Education and Research Centre (SERC), IISc, Bangalore.

Achievements

- ❖ Dr. Partha Pakray and Mr. Amarnath Pathak Participated in a shared Task & Workshop on Machine Translation System in Indian Languages (MTIL), organized by Amrita Vishwa Vidyapeetham (Amrita University), Coimbatore, India and secured the First position in English to Punjabi Machine Translation and Second position in English to Hindi Machine Translation.
- ❖ Dr. P. Ajmal Koya, Asst. Prof., Chemistry was selected for Overseas Postdoctoral Fellowship of SERB, DST, Govt. of India.
- ❖ An App was developed by Mr. Narayana Reddy, a student of 5th Semester, CSE. The name of the App is MIDZEN through which local people in Aizawl can buy products such as food, groceries, cameras, etc.
- ❖ Mr. Jereemi Bentham, a student of 7th semester of CSE department has successfully visited the city Moscow, Vladimir, St. Petersburg and Suzdal of Russia during July 3rd - 12th 2017 to represent India and his purpose of the visit was Science-Culture-Sports-Religion and Youth Relation.
- ❖ Mr. Jereemi Bentham, a student of CSE department is selected for Winter Internship at the University of Auckland in Auckland, New Zealand.
- ❖ Mr. Saurav Saha successfully completed his two months internship from 12th June - 12th August 2017 at Digital Media Lab, Universität Bremen, Germany, sponsored by DAAD-WISE fellowship programme.

Research Publications

- ❖ Sriparna Saha, Ranjita Das, Partha Pakray. "Aggregation of Multi-objective Fuzzy Symmetry based Clustering Techniques for Improving Gene and Cancer Classification Soft Computing", Soft Computing, Accepted.
- ❖ Amarnath Pathak, Partha Pakray, Sandip Sarkar, Dipankar Das, and Alexander Gelbukh. "MathIRs: Retrieval System for Scientific Documents", Journal of Computación y Sistemas, - Thematic issue: Authorship Analysis, vol 21, no 2, pp. 253–265, 2017. Amarnath Pathak, Partha Pakray. "An Improved Boolean Model for Scientific Text Information Retrieval", 21th International Conference on Asian Language Processing (IALP 2017), Singapore, December, 2017, Accepted.
- ❖ Somnath Banerjee, Partha Pakray, Riyanka Manna, Dipankar Das, "A Convolutional Neural Network Approach for Customer Feedback Analysis", 8th International Joint Conference on Natural Language Processing (IJCNLP 2017) - Task 4: Customer Feedback Analysis, Taiwan, November 27 – December 1, 2017, Accepted.

- ❖ Sandip Sarkar, Dipankar Das and Partha Pakray, "A Classification Approach for Answer Selection in Multi- Choice Question Answering System", 8th International Joint Conference on Natural Language Processing (IJCNLP 2017)- Shared Task 5, Multi-choice Question Answering in Examinations, Taiwan, November 27 – December 1, 2017, Accepted.
- ❖ Sukanta Debnath, Pabitra Kumar Biswas, Upama Das, "Time and Frequency Response Analysis of Power Amplifier used in Electromagnetic Levitation System", ICAEDC 2017 conference, Greater Noida, UP, India, 2017.
- ❖ Sukanta Debnath, Pabitra Kumar Biswas, Jonathan Laldingliana, "Analysis and Simulation of PWM Based Power Amplifier for Single Axis Active Magnetic Bearing (AMB)", IEEE ITEC conference, India, 2017, Accepted.
- ❖ Suman Majumder, Krishnarti De, Praveen Kumar, Ramesh Rayudu, "Effect of an Electrical Vehicle Bus Network on Guwahati Grid", ISGT Asia (IEEE conference), 2017, Accepted.
- ❖ Rudra Sankar Dhar, L Khiangte, "Doubly Infused Strain in Sub-50 nm Three Layered Channel Heterostructure on Insulator MOSFET", International Conference on Nanotechnology: Ideas, Innovations and Initiatives (ICN:3I) 2017 Conference , IIT Roorkee, Accepted in September 2017.
- ❖ Anumoy Ghosh, Tapan Madal, Santanu Das, "Ultrawideband Printed Monopole Antenna with Single Electromagnetic Bandgap Inspired Structure for Triple Band Notch Characteristics", Radioengineering Journal, Accepted in July 2017.
- ❖ Anumoy Ghosh, Amartya Banerjee, Santanu Das, "Dual-Band Notched Wide-Slot UWB Antenna for Low- Cost RFID Applications", IEEE Conference on Communication and Information Technology, Gwalior, Accepted in August 2017.
- ❖ Anumoy Ghosh, Pratik Mondal, "Bandpass Filter Using a Combination of DGS's and Open Ended Slot", IEEE Conference on Signal Processing and Communication Engineering Systems, Hyderabad, Accepted in September 2017.
- ❖ Kumar Gautam, Amit Kumar Singh, Bidesh Roy, "Prediction of Response in R- μ EDM Process using Adaptive Neuro-based Fuzzy Inference System (ANFIS) Model", Conference on Precision, Meso, Micro and Nano Engineering 2017, IIT Madras, Tamil Nadu, Accepted.
- ❖ Kumar Gautam, Amit Kumar Singh, Bidesh Roy, "Predicting Response Parameters of Micro Electrical Discharge Machining using ANFIS", Regional Seminar on Renewable Energy Technology: Issues & Prospects 2017, NIT Silchar, Assam, Selected for the publication in AIP proceedings.
- ❖ Nitin Kumar, Alok Shukla, RNP Choudhary, "Structural, Electrical and Magnetic Properties of Modified BiFeO₃", Moscow International Symposium on Magnetism (MISM-2017), M V Lomonosov Moscow State University, Moscow, July 1- 5, 2017.
- ❖ Nitin Kumar, Alok Shukla "Processing and Characterization of Cd/Ti Co-substituted BiFeO₃ Nanoceramics" 8th International Conference on Advanced Materials Development and Performance (AMDP-2017), S B Phule Pune University, Pune, July 11-15, 2017.
- ❖ Ch. Ram Reddy, O. Surender, Ch. Venkat Rao, T. Pradeepa, "Adomian Decomposition Method for Hall and Ion-Slip Effects on Mixed Convection Flow of a Chemically Reacting Newtonian Fluid Between Parallel Plates with Heat Generation/Absorption", Propulsion and Power Research (Elsevier), Accepted.
- ❖ D. Srinivasacharya, O. Surender, "Non-Similar Solution for Free Convection in a Doubly Stratified Fluid Saturated Non-Darcy Porous Medium with Soret-Dufour Effects" 15th UK Heat Transfer Conference (UKHTC2017), Brunel University, London,UK, September, 2017.

Societies @ NIT Mizoram

- ❖ Department of CSE has formed a Computer Society headed by HOD and some of the departmental faculties as faculty advisors along with student members. It aims at organizing various activities for the professional and intellectual development of the students such as Web Design, Tech Awareness (Blog/Forum), Presenting innovative ideas, poster presentation on recent developments in technology etc.
- ❖ Department of ECE has initiated the formation for Electronics and Communication Society to facilitate better interaction among students and faculties and in a way to carry out extra curriculum activity.
- ❖ Department of EEE has initiated the formation for Electrical and Electronics Engineering Society to facilitate better interaction among students and faculties and in a way to carry out extra curriculum activity.



"We are what our thoughts have made us; so take care about what you think. Words are secondary. Thoughts live; they travel far."

..... Swami Vivekananda



"Learning gives creativity, creativity leads thinking, thinking provides knowledge, knowledge makes you great."

"If you Fail, never give up because F.A.J.L means First Attempt In Learning. End is not the end, in fact E.N.D means Effort Never Dies. If you got No as an answer, remember N.O. means Next Opportunity"

..... Dr. A. P. J. Abdul Kalam