

NITM *Chronicle*

The e-bulletin of NIT Meghalaya

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F2F WITH THE DIRECTOR

NITM Chronicle Team met the Director in his chamber and had a conversation about the institute's recent achievements and his thoughts regarding the progress of the Institute.



TEAM: Sir, our NIT Meghalaya was honored with the India's Best Engineering Institute award in North East Region. What are your views on this?

Director: We are honored with this award by Berkshire Media LLC, USA. The most fascinating idea was that the authorities do not collect information of an institute physically and directly from them but through external sources like institute websites etc. Congratulations to the students, faculties and staff for the constant effort.

TEAM: Sir what are the other activities that are taken care of, but not well-known to the new batches of NIT Meghalaya yet?

Director: The institute manages many tasks for the betterment like:

- A new curriculum is designed for the B.Tech, M.Tech and PhD courses. This is kept such that, it is student-friendly, industry oriented as per requirement and well regulated.
- Academicians of high repute are invited to the institute as guest lecturers and visiting faculties for mostly all branches. This enriches the teaching system further.
- Two months internships are mandatory for firsthand experience and to see the outside world closely.
- Students' performances are monitored more strictly by faculty advisors. This was a way of extending our network to parents through them. Ultimately resulting to lesser number of absentees and better grades.

TEAM: Sir, what would you like to say about the Book Fair organized this year?

Director: "Books are our best friends" is a famous saying. The book fair was organized with a similar concept in mind for the past two years now, with an objective to popularize the books among faculties and students. They were allowed to purchase books with a heavy discount and more importantly, suggest good books for the library.

TEAM: Sir, we would also like to know about the IEEE Conference that was held on 1st and 2nd of March?

Director: It was an international conference organized by the department of Electronic and Communication, technically sponsored by IEEE. This conference too, had a good gathering of people from our state as well as people from across the country and abroad, leading it to a grand success.

TEAM: Sir, can you please share a word about the NIT Arunachal Pradesh campus visit under EBSB?

Director: Some cultural activities are conducted under Ek Bharat Sreshth Bharat (EBSB) where the students come to know more about the states of Meghalaya, Arunachal Pradesh and Uttar Pradesh, i.e. about the language, festivals, culture, history and so on. Naturally this campus visit was a part of it and our students were received warmly in NIT Arunachal Pradesh.

TEAM: Sir, how would you like to convey your regards to the team who bagged a position in the Inter NIT Football Tournament 2019?

Director: Many activities are organized among the NITs and one such was the Inter NIT Football match, held in the month of January 2019. Our students bagged the **1st runners-up** position followed by NIT Rourkela as the champion. Congratulations to the team and I wish them more success.

INSTITUTE NEWS

INDIA'S EDUCATION EXCELLENCE AWARD



NIT Meghalaya has received the “INDIA’S EDUCATION EXCELLENCE AWARD 2018” as the India’s Best Engineering Institute in the North East India region by Berkshire Media Pvt. Ltd. (A Division of Berkshire Media LLC, USA), based on quality of education, infrastructure, learning environment, academic curriculum, student development and other such factors.

ALL INDIA INTER-NIT FOOTBALL TOURNAMENT

All India Inter-NIT Football Tournament was organized by NIT Rourkela during **January 25-27, 2019**. Like previous year, the boys’ football team of NIT Meghalaya left their foot prints by securing **2nd place** in the tournament. NIT Meghalaya football team was defeated by the host Institute, NIT Rourkela, by 0-1 in the final match. The boys won the hearts of several spectators with their skills, disciplines and team work. SAC acknowledged the effort of Mr. Rahul Kharbangar for accompanying with the team as a manager.



DEPARTMENTAL NEWS

SECOND INTERNATIONAL CONFERENCE ON INNOVATIONS IN ELECTRONICS, SIGNAL PROCESSING AND COMMUNICATION (IESC 2019)

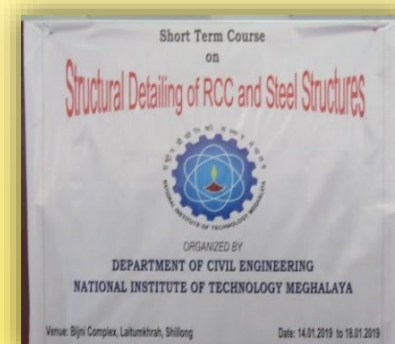
The Department of Electronics and Communication Engineering has organized an IEEE Technically Co-sponsored 2nd International Conference on Innovations in Electronics, Signal Processing and Communication (IESC 2019) during **March 1-2, 2019** at State Convention Centre, Shillong. The conference received a total of 169 submissions. After a thorough peer review process, 60 papers have been selected for presentation in the conference. The following leading experts in their fields have delivered keynote speeches.



Name of the Expert	Keynote speech topic
Prof. G. Panda Former Deputy Director Indian Institute of Technology Bhubaneswar Bhubaneswar, Odisha, India	Intelligent Signal Processing
Dr. N.N.S.S.R.K. Prasad Scientist `H`, Outstanding Scientist, Technology Director (LCA Payloads) and Aeronautical Development Agency (ADA), Bangalore	Innovations of Avionics Sensor Technologies for a Combat Aircraft
Dr. P. H. Rao Scientist, SAMEER – Centre for Electromagnetics	Massive MIMO and Phased Array Antenna Configurations for Indigenous End to End to 5G Test Bed
Dr. Manish Mathew Senior Scientist, CSIR-CEERI, Pilani	Growth and Fabrication of Different III-Nitride Semiconductor Material and Their Applications

WORKSHOP ON STRUCTURAL DETAILING OF RCC & STEEL STRUCTURES

Civil Engineering Department has conducted a short-term course on the topic, “**Structural detailing of RCC & Steel structures**” from **January 14-18, 2019** at NIT Meghalaya. The short-term course was attended by 36 participants including working engineers, architects and engineering students from various organization and institute of Meghalaya and Assam. It covered introduction of Auto CAD & knowledge necessary to produce robust and rigorous detailing and scheduling of structural concrete using AutoCAD for building structures/Retaining wall and decking slab as relevant codal specification. The coordinator of the course was **Dr. Comingstarful Marthong**, Associate Professor, Civil Engineering department.



PATENT FILED

An Indian Patent filed has been filed by **Dr. Shubhankar Majumdar**, Assistant Professor in Electronics & Communication Engineering with co-workers Shyam Akashe, Aaditya Chaudhary, Ashish Verma in title "**Automatic Refilling Soil Tensiometer and Tip Rinsing Mechanism through Fluid Whirls**".

EXTERNAL SPONSORED RESEARCH FUND

- **Dr. Atanu Banerjee**, Associate Professor & Dean (SW), Electrical Engineering, has received project entitled "**Design and development of a cost-effective and energy-efficient grid-connected pumped hydro system employed with sensor-less PMSBLDCM**" from Central Power Research Institute (A Government of India Society under Ministry of Power) on **February 6, 2019**. The total approved financial outlay of the project is **₹ 32.90 lakhs**.
- **Dr. Ch V Rama Rao**, Assistant Professor & Head of Department, Electronics & Communication Engineering, has received project entitled "**Masking of interfering sounds in a crowded environment for hearing aid applications**" from SERB, DST on **February 27, 2019**. The total cost of the project is **₹ 23,46,447/-**.

STUDENTS BRING LAURELS



Rishika Chakraborty, pursuing Ph.D. under the supervision of **Dr. Mukul Pradhan**, DST-INSPIRE Faculty, Department of Chemistry, was awarded with the **Best Poster Award** for presenting her research work on the "**Synthesis of Au-V₂O₅ composite nanowire through shape transformation of vanadium (iii) metal complex for high-performance solid-state super capacitor**" in the International Meeting on Energy Storage Devices (IMESD) 2018 & Industry-Academia Conclave (IAC) 2018, held at **IIT Roorkee** during **December 10-12, 2018**.



Parag Jyoti Bezbaruah, pursuing Ph.D. under the of **Dr. Rajat Subhra Das** and **Dr. Bikash Kumar Sarkar**, Department of Mechanical Engg., was awarded the **Best Presentation Awards** for presenting his work on the "**Numerical investigation on triangular fin based solar air heater**" in the **6th International Conference on Advances in Energy Research** held at **IIT Bombay** during **Dec. 12-14, 2018** and on the "**2DCFD analysis of solar air collector with Miller teeth shaped roughness**" in the **1st International Conference on Recent Innovations and Developments in Mechanical Engg.** held at **NIT Meghalaya** during **Nov. 08-11, 2018**.



Subhankar Roy, pursuing Ph.D. from the Department of Mechanical Engineering under **Dr. Tanmoy Bose**, Dept. of Mechanical Engineering, was awarded with **3rd Prize for Best Paper Award** under oral presentation category, for their article entitled "**Bicoherence analysis-based delamination detection in glass fiber reinforced polymer composite plate**" in the Conference on **Non-Destructive Evaluation (NDE), 2018** organized by **Indian Society for Non-Destructive Testing (ISNT)** held at CIDCO Convention Centre, Mumbai during **Dec. 19-21, 2018**.

BON-VOYAGE



Prabhat Ranjan Bana, M. Tech. Scholar in the Department of Electrical Engineering, working in the field of “**Power Quality Control with the Application of Reduced Switch Multilevel Inverter**” under the guidance of **Prof. Gayadhar Panda**, has been successful in applying to **Joint UK-India Clean Energy Centre (JUICE)** two months exchange program scheme. In this regard, Mr. Bana worked at **Cardiff University, UK** from **January 23, 2019 to March 3, 2019** under the supervision of **Prof. Jianzhong Wu**. During this visit, he worked in the area of “**Design of Reduced Switch Multilevel Inverter for Power Quality Control of Solar Energy**”.



Kaibalya Prasad Panda, Ph.D. Scholar in the Department of Electrical Engineering, working in the field of **Power Converters Control and Application in Renewable Energy Environment** under the guidance of **Prof. Gayadhar Panda**, Department of Electrical Engineering has been successful in applying to **Joint UK-India Clean Energy Centre (JUICE)** two months exchange program scheme. In this regard, he worked at **University of Warwick, UK** from **January 23, 2019 to March 3, 2019** under the supervision of **Prof. Jihong Wang** and **Dr. Oleh Kiselychnyk**. During this visit, he worked in the area of “**Power Quality Control in a Reduced Switch Multilevel Inverter Interfacing with Photovoltaic System**”.

COLORED FEATHERS

The following research scholars of NIT Meghalaya successfully completed their oral defence viva-voce examination:

Name of the Scholar	Department	Name of the Supervisor(s)	Date of viva-voce	Thesis title
Mrs. Surmila Thokchom	Computer Science & Engineering	Prof. Dilip Kumar Saikia	March 9, 2019	Public Auditability Schemes for Dynamic Cloud Data
Mr. Deepak Kumar		Dr. Anup Dandapat	February 11, 2019	Implementation of the computational arithmetic operations for signal processing applications
Mr. Meinam Annebushan Singh	Mechanical Engineering	Dr. Deba Kumar Sarma	January 5, 2019	Experimental and Numerical Analysis of Multi Walled Carbon Nanotubes Filled Alumina Composites In Wedm and M-EDM Process

GATEWAY TO HIGH FLYING

Following students have qualified **GATE 2019**. The Institute congratulates the GATE 2019 qualified students for their future endeavor.

- **Six (06)** students of **Civil Engineering** department
- **Five (05)** students of **Computer Science & Engineering** department,
- **Three (03)** students of **Electronics & Communication Engineering** department,
- **Three (03)** students of **Mechanical Engineering** department
- **Four (04)** students of **Chemistry** department

SNIPPETS

PARIKSHA PE CHARCHA 2.0

The Hon'ble Prime Minister of India interacted with the students, teachers and parents at 11 AM on **January 29, 2019** on the ways to reduce the examination stress. Academic section, NIT Meghalaya took the initiative to stream the event at the Institute premises for the students and faculties.



EK BHARAT SHRESTHA BHARAT (EBSB)

Since 2017, NIT Meghalaya celebrates the “Ek Bharat Shrestha Bharat” (EBSB) program, an initiative by Government of India, in its campus premises with full enthusiasm. Under the EBSB engagement matrix Arunachal Pradesh and Uttar Pradesh are paired with Meghalaya. An essay writing competition and a painting competition were organized by the Cultural Committee, Student Activity Center (SAC) on **February 6, 2019** under the themes of EBSB.



As a part of the celebration of 150 years of Mahatma Gandhi's Birth Anniversary under EBSB, NIT Meghalaya invited the students of NIT Arunachal Pradesh and MNNIT Allahabad to Shillong. Ten (10) students of NIT Arunachal Pradesh, accompanied by Lt. Achyuth Sarkar, Assistant Professor, CSE Department, visited Shillong during **November 2-3, 2018**. Five (05) students of MNNIT Allahabad, accompanied by Dr. Ashish N. Sawarkar, Assistant Professor, Chemical Engineering Department, visited Shillong during **January 27 to February 2, 2019**. Prof. Bibhuti Bhusan Biswal, Director, NIT Meghalaya, interacted with the students of MNNIT Allahabad.



Students from both the Institutes visited Sohra (popularly known as Cherrapunji) where the main campus of NIT Meghalaya is coming up and visited some other famous tourist spots in Meghalaya along with the famous Don Bosco Museum at Shillong to understand the tradition and culture of the North Eastern states of India. Students' interaction sessions were also held between the students of host Institute (NIT Meghalaya) and the students of NIT Arunachal Pradesh and MNNIT Allahabad. Six (06) students of NIT Meghalaya, accompanied by Dr. Bidyasagar Kumbhakar, Assistant Professor, Mathematics Department, visited NIT Arunachal Pradesh during **January 30 to February 01, 2019**. During this visit, the students got an opportunity to meet Prof. Pinakeswar Mahanta, Director of NIT Arunachal Pradesh. The team visited some of the remote villages, tourist spots etc. to know about the local culture, tradition etc. of Arunachal Pradesh.



Many more programs, such as Food Festival, traditional folk songs and dance programs etc., will be held during the forthcoming annual cultural festival, SHISHIR 2019, of NIT Meghalaya during **April 5-6, 2019**.

SECOND TECHNOLOGY BOOK FAIR

The Second Technology Book Fair was organized in National Institute of Technology at the basketball court from **February 21-22, 2019**. The book fair was inaugurated by Prof. A. Bhattacharjee, the Director In-charge of NIT Meghalaya. While welcoming the gathering, he noted that this exhibition was an excellent platform for researchers, academicians and students all at one time and all in one place. He noted that the benefits of exhibition were many folded like, wider variety of choices of books before they can buy; opportunities for faculties to choose books that fit into their class room teaching and individual research. He opined that such book exhibitions must be periodical and attract wider participation. He stressed that in the world of Internet and Google, one can search information on a click of a mouse. He further questioned that how many even go to the second page of the search results. Finally he thanked all publishers namely, Wiley, Cambridge University press and many more for their participation. For the vote of thanks, Prof. H.C. Das, Chairman, Library Committee thanks the publishers for coming all the way to this remote place to make the book fair a grand success. He further appreciates the Assistant Librarian, the Central Library staffs and the Library committee members for coordinating the various aspects to make the 2nd Technology Book Fair a success.



Books on display were from the empanelled vendor and renowned publishers like Pearson, Cambridge University Press, PHI, Oxford University Press, and Wiley etc. The publishers also brought along with them the latest publisher catalogues from where the students and faculty can also choose the books.



This book fair received a huge response from the NIT Meghalaya community which included faculty and students. All the attendees including publishers were very pleased with the positive approach of NIT Meghalaya fraternity. The efforts of the Central Library team lead by **Dr. Rokester Kharbihkhiew** (Asst. Librarian) and Prof. H.C. Das, Chair, Library Advisory Committee made the book fair a real success. The book fair concluded with positive feedbacks and good prospects.

MATRIBHASHA DIWAS

The International Mother language Day (Matribhasha Diwas) was celebrated on **February 21, 2019** at the Mini Auditorium, NIT Meghalaya campus. Prof. Ayon Bhattacharjee, Director i/c, Dr. Atanu Banerjee, Dean (SW) and Mr. B. N. Choudhury, Registrar, NIT Meghalaya graced this occasion. A debate competition was organized by the Cultural Committee, Student Activity Center (SAC) on the topic "The influence of mother tongue over educational system". Mr. Shubham Singal, Mr. Atul Kumar, Mr. Deepak Kumar, Mr. Abhijeet Kumar, Mr. Ankit Kumar Singh and Mr. Aditya Singh who spoke in the favour has been judged as the winner team.



SPORTS NEWS

ALL INDIA INTER-NIT CHESS TOURNAMENT

All India Inter-NIT Chess Tournament was organized by NIT Agartala during **March 07-10, 2019**. Naveen Vishwakarma (Team Captain), Kummari Tirupathi Rao, Kamarapu Shivachandra and Tamarana S.V.S. Teja have represented our college in the competitions. They had performed well in Intra-NIT Chess competitions conducted in our college premises.

INTRA-NIT MEGHALAYA CRICKET TOURNAMENT

Intra-NIT Cricket Tournament, organized by the Sports Committee, Student Activity Center (SAC), at Umpling ground during **February 23-24, 2019**. Thirteen (13) students' teams participated in the tournament along with a Faculty team. The team of research scholars, under the captaincy of Animesh Bhandari (P15MA001), became the champion of the tournament by defeating the team of B. Tech. 4th year (Team A) in the final match. Neeraj Yadav (P16ME007) was the Man of the Match and V. Sai Kishore Chary (B16EC013) was the Man of the tournament.



INTRA-NIT MEGHALAYA CHESS & CARROM TOURNAMENT

Intra-NIT Meghalaya Chess & Carrom Tournament was held at the Mini Auditorium, NIT Meghalaya campus premises, during **March 2-3, 2019**. The top three players/teams of the tournament are as below:

Intra-NIT Meghalaya Chess Tournament	
CLASSIC FORMAT	
Champion	Naveen Kumar Vishwakarma (B15ME027)
1 st Runner up	Kummari Tirupathi Rao (B16EC022)
2 nd Runner up	Kamarapu Shivachandra (B16EC020)
BLITZ FORMAT	
Champion	T S V S Pavan Teja (B18EE008)
1 st Runner up	Kishan Das (B16ME005)
2 nd Runner up	Kummari Tirupathi Rao (B16EC022)
Intra-NIT Meghalaya Carrom Tournament	
SINGLES	
Champion	V Sai Kishore Chary (B16EC013)
1 st Runner up	Himangshu Borah
2 nd Runner up	Indrajit Dutta (S17MA005)
DOUBLES	
Champion	Himangshu Borah, Reetesh Barpatra
1 st Runner up	V Sai Kishore Chary (B16EC013) Eeta Viswa Teja (B16EC011)
2 nd Runner up	Suraj Vishwakarma (B16ME020) Deepak Kumar Sah (B16ME023)



Vision of National Institute of Technology Meghalaya

A Centre of Excellence vibrant with academic activities and bubbling with youthful creative energy, making significant contribution to the World of Knowledge and Technology and to the Development of the State, the Region and the Nation.

Mission of National Institute of Technology Meghalaya

- ∅ To impart quality education in the fields of Engineering, Science and Technology at Undergraduate as well as Postgraduate levels with special attention to encourage innovation and creativity in these fields in a clean and healthy environment.
- ∅ To engage in creation of knowledge and development of technologies through effective research programs

Mechanical Engineering Department

Vision

A Centre of Excellence in Mechanical Engineering education and research with allied areas making its presence nationally through the manpower produced with transfer of knowledge and developed technologies.

Mission

- ∅ To impart quality education in the field of Mechanical Engineering.
- ∅ To carry out innovative research towards development of cutting edge technologies for the benefit of the society at large.
- ∅ To participate in extension activities for dissemination of knowledge and enhancing socio-economic environment for better life.

Program Specific Outcome of the Mechanical Engineering Department

- Graduates will be able to achieve excellence in thermal fluid, product design and development by acquiring knowledge in mathematics, science, designing principles and advanced manufacturing techniques.
- Graduates will be able to build themselves as Technocrats and Entrepreneurs by applying the technological and managerial skills in immersing multidisciplinary fields.

Program Educational Objectives of the Mechanical Engineering Department

- Ensure practicing Mechanical engineers to contribute for industry or academia in contemporary issues using appropriate engineering tools in professional, social, economical and ethical manner including safety and environmental concerns.
- Encourage innovation and creativity through application of knowledge, skill and engineering solutions.
- Engage in dissemination of knowledge and development of technologies with effective research through higher education and life-long learning.
- Demonstrate teamwork and leadership qualities with effective communication in the multidisciplinary complex engineering solution that support the overall development of the nation and the world.

Electrical Engineering Department

Vision

To become a center of excellence in Electrical & Electronics Engineering and to produce high quality, self-motivated, creative and ethical engineers and technologists, contributing effectively to universal science and contemporary education.

Mission

- ∅ To impart quality engineering education and ethics to its students.
- ∅ To adopt the best pedagogical methods in order to maximize knowledge transfer.
- ∅ To have educate mechanisms to enhance implementations of theoretical concepts in practical set-ups.
- ∅ To carry out high quality research leading to the creation of Intellectual Property.
- ∅ To provide the best facilities and the environment to its stakeholders by creating the desired ambiance.

Program Specific Outcome of the Electrical Engineering Department

- Modelling and Analysis – An ability to mathematically model and analyse the performance of Electrical Machines, Control systems, Instrumentation systems, Power systems and Power Electronic systems.
- Design and Development – An ability to design the hardware and software requirements for the development of Electric drives Automation and Embedded systems.
- Ability to apply mathematical methodologies to solve computation task, model real world problem using appropriate data structure and suitable algorithm.

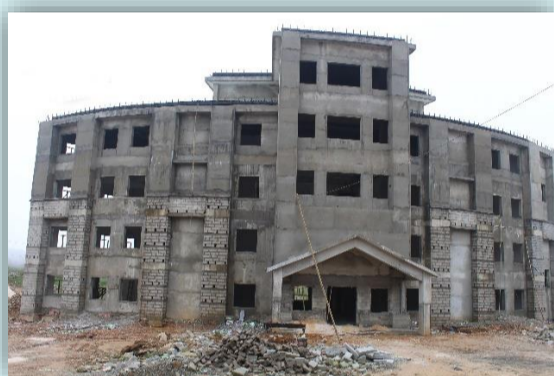
Program Educational Objectives of the Electrical Engineering Department

- Core Competence: Ensure practicing Electrical engineers to contribute for academia as well as industry or academia in contemporary issues using appropriate engineering tools in professional, social, economical and ethical manner including safety and environmental concerns.
- Breadth Competence: Exemplify teamwork and leadership qualities in allied professions with effective communication skill in the multidisciplinary complex engineering solution that aid the overall development of the nation and the world.
- Professional Ability: Motivate innovation and creativity through application of knowledge, skill and engineering solutions keeping in the view sustainable development of the society.
- Learning Attitude: Involve in dissemination of knowledge, skills and attitude with effective research through higher education and life-long learning.

GLIMPSES OF PERMANENT CAMPUS AT SOHRA



Academic Block



Central Library



Academic Block-C



Academic Block-D

EDITORIAL BOARD

Advisory Committee

Faculty / Officer	Designation	Capacity in the Board
Dr. Paresh Nath Chatterjee	President, Student Activity Centre	Chief Editor
Dr. Paonam Sudeep Mangang	HoD, Humanities and Social Sciences	Co-Chief Editor
Mrs. Ambika Rai	Assistant Registrar (Academic)	Convener

Student Editorial Board

Name	Roll Number	Capacity in the Board
Devansh Maurya	B16CS024	Chief Editor
V. Sai Kishore Chary	B16EC013	Chief Editor (Invited)
Deepak Gupta	P17PH008	Chief Editor
Shubham Singal	B18ME012	Member
Ankur Sarkar	B18EE020	Member
Preeti Polai	B18EC003	Member
Mansi Sharma	B18ME021	Member
Susmita Paul	B18CS007	Member