



# NITM

## Chronicle

Issue 5; April 2020

### HIGHLIGHTS

- ❖ REPUBLIC DAY
- ❖ THIRD TECHNOLOGY BOOK FAIR
- ❖ VISIT BY RAMESH POKHRIYAL 'NISHANK'
- ❖ RESEARCH CONCLAVE
- ❖ SHISHIR 2020





with **TEQIP-III Coordinator, NIT Meghalaya**

**Team: Sir, we have seen a steady rise in the NIRF ranking of our Institute through the years. How has TEQIP assisted in it?**

There are many parameters upon which institutes are judged for the NIRF ranking. If we break down these, we will find NIT Meghalaya among the top two or three NITs- old and new combined, in the teaching-learning parameter. While we score exceptionally well in some parameters, we lose most in 'peer review.' Being a pioneering NIT, we do not have many alumni who could give feedback, unlike most other institutes. However, under teaching-learning, there are several components like our institute has rich learning resources- eBooks, journals, etc. We purged obsolete equipment and instruments that one may find in old NITs and



**Prof. Ayon Bhattacharjee**

we are technically updated with industrial needs. All departments and clubs with big labs have instruments facilitated by TEQIP III, and those are marked as TEQIP sponsored instruments as well. Not limiting to these, we also have free access to software like MATLAB, Grammarly, etc., which are otherwise not open. TEQIP has always provided free GATE coaching for every batch for the past three years, free AMCAT employability tests, and training.

**Team: Sir, can you please enlighten us with your recent project of "lab in a shoebox containing all secondary level Physics experiments". We are quite fascinated by the title itself and would love to know more about it.**

Whenever I visit a school, they mention financial problems or space issues due to which they do not have labs. We know that practicals have a better impact than the generic textbooks. Considering all these, I thought, why not design something that will serve the purpose. I jotted down all the experiments of classes IX and X encompassing almost all boards and literally sat down with a shoebox. While positioning them in it, I found it possible to design 'Lab in a Shoebox'. I then proposed a small project to the Design and Innovation Centre, NITM and my target was to make it within Rs 10,000. Ultimately I finished it in Rs 3,500. Yet, I have further reduced its cost to around Rs 2,500 by replacing perspex glass with plywood. So this was the basic idea of the 'Lab in a Shoebox' setup. Anyone who wishes to see it, is welcome to my office or lab.

## 71<sup>st</sup> Republic Day Celebrations

The morning of **January 26, 2020** witnessed the celebration of the **71<sup>st</sup> Republic Day** in National Institute of Technology Meghalaya. The Deans, teaching and non-teaching officials and students gathered in front of the Administrative Block in the early hours of the day, at around 8.45am. Prof. Gayadhar Panda, Dean (AA), NIT Meghalaya, hoisted the National flag at 9am. The flag hoisting ceremony was followed by a small speech delivered by Dean (AA). In the speech Prof. Panda reminds that we should all carry out our responsibilities as a citizen of India, diligently. With hearts filled with patriotic pride, the security personnel performed a march-past within the campus premises. Best security personnel (male&female) for maintaining discipline in their service were rewarded with gifts by Prof. Panda. Staff members who successfully qualified Praboth hindi training examination were awarded with prize money.



## Poster presentation & Slogans writing competition on Swachhata pakhwada

The Swachh Bharat Team of NIT Meghalaya, under the supervision of Dr.

P. Ramesh Babu, Assistant Professor, Department of ME, organised multiple events based on the theme '**Swachhta**', in english means cleanliness, for all the students of the Institute.

A Poster-making competition was held on **January 22, 2020**. Slogan-writing competition was also conducted on the same day, where the participants were required to write slogans based on the theme, 'Swachhta'. The best poster and the slogan according to the theme were awarded on **January 31, 2020**.

## Drawing competition & Poster presentation

The Photography Club, under the supervision of the faculty in-charge, Dr. Debabrata Podder, Assistant Professor, Department of CE, organised a Drawing Competition and a Poster Presentation Competition, based on the topic "**Awareness of Water Conservation**". Both the events held jointly on **January 29, 2020**. The competition witnessed a huge participation from students of all the departments. In the poster presentation, each participant briefly explained her/his poster and talked about water conservation for 5 to 10 minutes. Participant with the best performance, from each category, was awarded on **January 31, 2020**.

## Visit by Union HRD Minister, Dr. Ramesh Pokhriyal "Nishank"

The Union Minister of Education (formerly known as the Ministry of Human Resource Development) Dr. Ramesh Pokhriyal "Nishank" visited the National Institute of Technology Meghalaya, Shillong campus on the 14th of February 2020. The Minister was welcomed by the Director of the Institute, Prof. Bibhuti Bhusan Biswal, in presence of other faculty members. He was introduced to the various activities of the institute and expressed his happiness to note that the Institute is progressing with excellent work in teaching and research domains in its 9 departments. The 4th issue of the NITM Chronicle (the e-Newsletter of NIT Meghalaya) was then unveiled. The Minister of Education,

Government of Meghalaya, Shri Lakhmen Rymbui was also present at the occasion. A review of the upcoming NIT Meghalaya permanent campus at Sohra, 53 kms from Shillong, was done with respect to its development till date and completion. The campus is currently under construction. The Centre had previously announced an additional grant of Rs 314 Cr for the new Campus.

The Union Minister also highlighted and urged the faculty of NIT Meghalaya upon the development of the Himalayan region by intensifying research efforts. He also stressed upon the need to give special attention to the environment and to work in a dedicated manner in the field of environmental protection. He further encouraged to promote research in fields involving technical development which would be beneficial to the local environment, suit its climatic conditions and its people.



## Smart India Hackathon

NIT Meghalaya conducted **SIH Internal Hackathon** as a part of Smart India Hackathon (SIH) 2020. Internal Hackathon was conducted at

Computing Lab, Department of ECE, Laboratory Block on **January 29, 2020**. In Internal Hackathon, total seven teams participated for the selection by the judges from the Institute, in which total five teams were shortlisted and project proposals were sent to SIH authority for further selection. Shortlisted teams for software edition were **EPOCH, Aadhvan, Innovative folks** and for hardware edition were **Chaotic, Krtrim**.

## Robotics Club

### Yabhakriti - The Robotics Club of NIT Meghalaya

The word Yabhakriti is a combination of three Sanskrit words: **Yantrik** meaning mechanical, **Aabhasi**, meaning virtual and **Kriti**, meaning creativity. It has resulted from the dedicated students' and faculty members' cooperative effort to promote, inculcate and encourage robotics, mechatronics, and IoT temperament within the institute. It is one of the most active club of NIT Meghalaya. The **motto** of the Robotics club is eight fold and is expressed by the acronym **ACCURATE** (Analyse, Conceptualize, Construct, Understand, Remember, Apply, Technique, Evaluate).



## Workshop and Training for freshers

Lately, regular workshops and training programs were conducted for B.Tech I students by Yabhakriti on weekends. The seminars covered IoT, Arduino, motor driver, different types of sensors

and motors detailed introduction and training sessions. Yabhakriti also conducted workshops on Auto-CAD for fresh batch of students where they covered the basics of CAD Design and commands involved in Auto-CAD Software.



## Projects by Robotics Club

Yabhakriti has successfully completed many projects which includes Remote Control(RC) Car, Remote Control Boat, LFR (Line Follower Robot), Obstacle Avoiding Robot, Light Detection Robot, Snake Robot, Legged Robot. The club is now working on innovative projects like mechanical arm using flex sensor, fall detector plus home security system, portable water and turbine charger, smart blind stick, intelligent rainwater harvesting, smart vehicle identification and management using RFIDs, Cloud

Assisted Hybrid Renewable energy sources for water and electricity supply in the rural region.

## Hands-on Training on Robotics and Artificial Intelligence

Five days of “**Hands-on Training on Robotics and Artificial Intelligence**” workshop was organized by Yabhakriti during **January 27-31, 2020**. The training was funded and supported by the **Centre for Robotics and Mechatronics, NIT Meghalaya** and **State Council of Science, Technology and Environment (SCSTE), Meghalaya**. The programme was designed to encourage robotics and teach the enthusiastic and interested students of Meghalaya. They were introduced and trained about basics of robotics, its applications, components and construction of robots, Arduino, different sensors, controlling motors from sensor input, developing RC bots, Raspberry Pi Computer basics and application, IoT and smart systems. Dr. Rabindra Narayan Mahapatra, Associate Professor & HoD, Department of ME and Dr. Bikash Kumar Sarkar, Assistant Professor, Department of ME, were conveners of this program.



## Workshop on Entrepreneurship - 2020

Workshop on Entrepreneurship was jointly organized by the Centre for Innovation, Incubation and Entrepreneurship and NITM - Foundation for Innovation and Technology Incubation on **March 16, 2020** in the Lecture Hall. 6th semester B.Tech students, 1st semester M.Tech students and PhD research scholars were the key participants of the workshop. The workshop helped the participants to be a better decision-maker, better allocator of resources, enhanced their creativity, and also allowed them to look far beyond the norms of the society. This workshop also improved their personality, and guided them to be a better person.

## Codastic Club

### Codastic Club - The Coding Club of NIT Meghalaya Reports:

Codastic Club conducted an online quiz contest "**Maths Riddle**" for B.Tech I students on **March 26, 2020**.

### Notable achievement

One MoU has been signed with **North East Regional Load Dispatch Centre (NERLDC)** on **January 17, 2020** with the Institute for collaboration for **Synchrophasor Data Analytics**.

### Faculty outreach programs

- **Dr. Bunil Kumar Balabantaray**, Assistant Professor, Department of CSE, was the Session Rapporteur of the technical session (IT) and session chairs on "**Digital Business Transformation in India**", organized by Global Institute of Management, Bhubaneswar, Odisha. The event took place on **January 11, 2020**. It was sponsored by AICTE National Conference.

- **Dr. Saikat Mukherjee**, Associate Professor, Department of Mathematics, delivered three lectures in **Indian National Mathematics Olympiad Training Camp (INMOTC, 2020)**. It was held at the Department of Mathematics, North-Eastern Hill University, Shillong, India during **January 13-18, 2020**.
- **Dr. Diptendu Sinha Roy**, Associate Professor, Department of CSE, delivered invited lectures on the topics "**Computer Hardware and Operating Systems**" and "**Cyber Security Awareness**" at **NERLDC, POSOCO** on **February 18** and **February 19, 2020**.
- **Dr. Alok Chakrabarty**, Assistant Professor, Department of CSE, delivered an invited talk on the topic "**Introduction to MS Word, MS Excel and MS PowerPoint**", held at **NERLDC, POSOCO** on **February 19, 2020**.

## Student's Achievements

The NIT Meghalaya team bagged II position in **Choir** (with karaoke) in **Alcheringa**, the cultural fest of IIT Guwahati. It was organised during **Jan 30-Feb 1, 2020**. The team qualified the prelims, **Acapela**, prior the main event.

The team members were **Anamika Choudhury, Barishisha Kharmynthon, Menangtei Thangkhiew, Ibashisha A Marbaniang, Arwatki Chen Lyngdoh, Norbert Ezekiel Sunn, Nathaneal Gypad, Raphael Shaun Kharlukhi, Serene Eden Lisam Pariat** and **Meia Wankhar Kyrpang**.



## The Third Technology Book Fair

The Third Technology Book Fair was organized in NIT Meghalaya during **January 30-31, 2020**. The fair was inaugurated by Prof. Bibhuti Bhusan Biswal, Director, NIT Meghalaya.



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

This book fair received a huge response. All the attendees including publishers were very pleased with the positive approach of NITM fraternity.



The efforts of the Central Library team lead by Dr. Rokester Kharbihkhiew (Assistant Librarian) and Dr. Gitish Kumar Dutta, Chair, Library Advisory Committee made the book fair a real success. The book fair concluded with positive feedbacks and good future prospects.

## Intra-NITM Cricket Tournament - 2020

Intra-NITM cricket tournament was organized by the Sports Committee, Student Activity Center (SAC) NIT Meghalaya, at NEHU Campus Sports ground during **February 08-09, 2020**. A total of fourteen (14) teams participated, including one faculty team. The B.Tech IV Team won the championship, under the captaincy of **S N Charan Reddy**. Man of the tournament was **V Sai Kishore Chary** and man of the match was **Gorle Akhil**.



## Research Conclave

The First Research Conclave of NIT Meghalaya “**Research Conclave 2020**” was organized in National Institute of Technology, Meghalaya on National Science Day, **February 28, 2020**. The objective of program was to provide platform for young researchers and encourage research and innovations. It also inspired research scholars to demonstrate their innovative research works. The poster and oral submissions were invited under three tracks. Track 1 departments: ME, EE and CE, Track 2 departments: CY, PH, MA and HSS. The expert speakers were **Prof. Amitava Chatterjee**, Jadavpur University and **Dr. Neena Gupta**, ISI Kolkata (**Shanti-Swarup Bhatnagar Awardee**). The event attracted over 120 research scholars from BARC, IIT Guwahati, NIT Durgapur, NIT Meghalaya, Tezpur University.

The researchers were awarded in various technical programs like poster presentation, oral presentation and research work demonstration. **Saurav Das, CY** was awarded Institutes’s Best Researcher Award. **Poonam Gupta, CY** won a prize for the Best Research Work Demonstration. Best Oral Presenters in track 1, 2 and 3 were **Aabir Das, ME**, **Telajala Venkata Mahendra, ECE**, and **Sunny Nandi, PH**, Tezpur University. Winners of the poster presentation were **Mridusmita Roy Choudhury, ME** (1st), **Pratikanta Mishra, EE** (2nd) and **Kaibalya Prasad Panda, EE** (3rd).

## Hackathon 2020

The Center of Innovation, Incubation and Entrepreneurship, NIT Meghalaya in association with the State Council of Science, Technology and Environment, Meghalaya organized Hackathon 2020 during February 27-28, 2020. The event was sponsored by **Rashtriya Vigyan Prodyogiki Sanchar Parishad (RVSP)**, Department of Science and Technology, Government of Meghalaya and TEQIP-III, NIT Meghalaya.

On **February 27, 2020** the Institute celebrated the **National Science Day** under the theme “Women in Science”. Addressing the event, Chief guest **Professor Bibhuti Bhusan Biswal**, Director, NIT Meghalaya said that Science has played an evident role in transforming society. To commemorate the day, the presentations related to modern day technology were presented by faculty members and students.

The prime focus of the **Hackathon 2020** – National level competition was to address the key sectors of the state Meghalaya. This includes soil and water conservation, water supply and sanitation, and farming. The event witnessed active participation from the students of different schools and colleges across the state including Layola Sec. School, Williamnagar, Christian Girls Hr. Sec. School, Tura, Mawphlang Sec. School, Mawphlang, Nongpoh Nepali Sr. Sec. School, Nongpoh, St. Margaret’s Hr. Sec. School, Shillong.

On the same day, diverse models/ posters were demonstrated by faculty members and students of NIT Meghalaya for proposed projects to be funded by the State Council of Science, Technology and Environment, Meghalaya. On the last day, an **open quiz competition** was organized for school students where Professor Ayon Bhattachjee, Dean (R&C), NIT Meghalaya was the quiz master.



## Coloured Feathers

The following Research Scholars of NIT Meghalaya successfully completed their oral defence viva-voce examination during January-March, 2020:

Name of the scholar	Department	Name of the Supervisor(s)	Title of the Thesis	Date of viva-voce
<b>Sanjib Kr Rajbongshi</b>	ME	<b>Supervisor:</b> Dr.Deba Kumar Sarma, Associate Professor,ME, NITM	Modelling of Hard & High Speed Machining along with Parametric Study on Flankface Surface Texturing of Cutting Tool	February 10, 2020
<b>Bernard Nongpoh</b>	CSE	<b>Supervisor:</b> Dr. Rajarshi Ray, Assistant Professor, School of Mathematical Sciences, IACS Kolkata <b>Co- Supervisor:</b> Dr.Ansuman Banerjee, Associate Professor, Advanced Computing and Microelectronics , ISI Kolkata	Architecture-aware Program Analysis Techniques for Approximate Computing	February 11, 2020
<b>Farhana Begum</b>	ECE	<b>Supervisor:</b> Dr.Anup Dandapat, Associate Professor, ECE,NITM	Low Power High-Resolution Flash-SAR ADC: Standalone and Hybrid Architectures	February 28, 2020



Submissions for Sketch Design, Graphic Design and Painting



Avishek Paul, EE



Sanjay Kol, CSE



Banshan Garod, ME



Kartikey Gupta, ECE



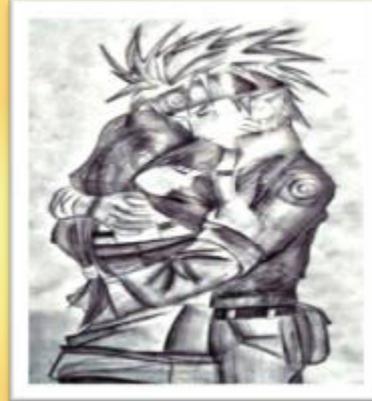
Kunal ray, ME



N Hemanth, ECE



Banshan Garod, ME



Victor Sharma, ECE



Arohi Kashyap, ME



Sushmita Paul, CSE



Arohi Kashyap, ME

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