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## Message from Director



It is matter of great respite that after almost two years of pandemic COVID-19 which has dislocated most aspects of life including education, India is limping back to normalcy. NITTR, Kolkata too has resumed her activities in the

traditional contact mode, even though the ICT mode is continuing in parallel. Of course several modes of new learning models are emerging across the globe. Two mostly discussed and emerging teaching models are Hybrid and Blended which are often be mistaken for one another although both contain certain similar instructional elements with certain distinctive features. In case of Hybrid teaching method, teacher can teach both in-person and remote students at the same time. Of course asynchronous teaching methods can be utilized to complement the face-to-face interaction. In contrast, blended model uses the in-person teaching by utilizing instructional videos and online assignments. It will be prudent to use hybrid model for training of teachers at NITTR Kolkata. However the hybrid

model must designed properly with proper digital engagement without hampering too much about the positive aspects of face-to-face interactions with students. It is envisaged that the hybrid mode of learning can enhance and accelerate learning by providing student-centric approaches to meet diverse needs of modern learners. Although people are adopting quick fix solution for it. The need of the hour is to design and develop hybrid mode of education in systematic manner by undertaking educational research while spelling out its pros and cons. Several issues namely proper extent of learning environment related to contact and ICT mode, identification of proper digital platform, possible abuses of digital platform, psychological aspect of hybrid learning and other unknown problems. I believe that NITTR, Kolkata can take a lead role by formulating certain benchmarks for both blended and hybrid models in terms of learning environment, lesson design, assessment and feedback led by our experienced faculty members so that they can train the teachers at pan India level for augmentation of capacity building in field of technical education. Let the world be illuminated by the light of knowledge with message from our Indian scripture:

ॐ असतो मा सद्गमय ।  
तमसो मा ज्योतिर्गमय ।  
मृत्योर्मा अमृतं गमय ॥

**Prof. Debi Prasad Mishra**  
Director, NITTR, Kolkata

# LOOKING BACK – REFLECTIONS: ME & NITTTR, Kolkata

J. J. Mandal, Professor,  
Civil Engineering Dept.

## Introduction

Two weeks back, in one Saturday evening, I received a call from Dr. Habiba Hussain, requesting me to give a write up for the Newsletter. I am not at all comfortable in writing anything except occasional some extremely unavoidable technical articles. Since this is the last time I am getting the opportunity to contribute something to our vibrant Newsletter, I will try to share my experiences during my association with this prestigious institution for more than a decade, to be specific around 14 years.

I joined NITTTR, Kolkata on 1st of July 2008 after a brief stint with NIT Durgapur. Before that I was associated with NIT Silchar (then REC Silchar), Jalpaiguri Government Engg College and Meghnad saha Institute of Technology, Kolkata (the first Private Engineering college to offer Civil engineering as a curriculum in West Bengal).

When I received the offer (sometime in early April 2008), I faced several inquiries regarding my option. Many of my colleagues and friends advised me not to accept the offer for various reasons as they feel suitable. Before taking a final call, I made a phone call to my Supervisor in IIT Kharagpur, Professor DP Ghosh. He told me that you have taught for so many years, why not try something new to you, it will be challenging. That time, the so called research activities in newly constituted NIT's (from REC's) was very primitive, even in terms of post graduate studies also. I decided to join and now I stand satisfied and happy, looking at the different aspects.

The environment and the academic atmosphere here seems to totally different from a standard Technological Institute. When I joined, the programme schedule for 2008-2009 was finalised. Hence I got a breathing space to acclimatise myself to the system. I was in a dilemma. First what is training all about? Second I have to deal with teachers, who has experience of teaching and some of them are highly experienced. I need to offer a list of preconceived programmes for a whole academic year by January 2009.

What I am going to offer? I discussed with the senior faculty members and others who are offering training programme for a long time. One of my senior colleagues, suggested that you think of an area from your specialization, you felt disadvantaged while teaching and not offered by the department in recent times. That was the beginning. It was 'Soil exploration and site Investigation', the most important and neglected topic in Civil Engineering curriculum. The course was offered in first week of June 2009, if I remember the applicants was 36, out of which 29 attended the programme. Participants were taken for a site visit and an Industry expert was invited to deliver talks to the participants. It was quite a successful in terms of quantity (number of participants) and I felt that the participants were satisfied. Online programme was not there in distant dream.

The journey started and it was engrossing and riveting as far as the future STTP's with final frontier in terms of online programmes due to COVID 19.

I came across the term "PEDAGOGY". Rarely spoken about in academic circles in engineering colleges in those days. I was told that it is related to various teaching techniques, assessment, and feedback mechanism. Then I realise that we were all doing it, may not be in a formative way. Basically I understood that it was all about how to teach? How to approach teaching? Though we were not formally trained as a teacher in earlier days, we got the necessary inputs from our senior colleagues and teachers, who were always there to offer helping hands for any kind of discomfort and problem faced during toddling years as a teacher. Now, I realise that all those can be imbibed in terms of structured training programmes.

With those in my thoughts, I tried to incorporate them in my programmes and realise it is not conventional teaching as we are habituated. As time passed, it is realised that the training is of vital importance particularly for young faculty members for their career advancement as well as in induction and continuation in their career as teaching requires continuous content upgradation with rapid development and change in teaching methodologies.

In NITTTR's, the main focus is in service technical teacher's training as the name itself suggest. But sometimes, we, ourselves, don't give due credence to it. Is it because, in back of our mind, we always think about the conventional teaching in UG and PG classes. We forget to our convenience that these Institutes were conceived and created for specific purposes. With changing time, we may have to adjust, but not relegating us by comparing with those with different



mission and vision. There are hundreds of Institutions in the conventional categories but we are four specials and unique. We have to look into the aspect of training as now premier Institutes are also offering training programmes.

I may be wrong, but have the gut feeling that we ourselves don't give importance to us. Being in various academic institution as faculty member, I can say with conviction that the academic and other load of a faculty member in NITTTR Kolkata cannot be compared at all with other academic institutions. It is much more by any yardstick. But at the end of the day we stay vindicated. For the departments, offering PG programmes, on top of regular PG classes, each of us is offering 10 to 12 STTP's. In this way, we are not able to do justice always to programmes. The special efforts by Education & management cannot be measured, all the bulls work are carried out by them on top of the regular STTP programmes.

We talk of STTP's only regarding achieving targets in terms of participant's week. Quality has taken a back seat. May be we don't have any alternative. As far as other activities, since we are few in numbers, it become mandatory many times not a rotational one as in other places.

My stay in NITTTR, Kolkata has opened a new domain and added a new dimension to my thought process. It has given me acquaintance to teaching and technical support staffs from various polytechnics and engineering colleges particularly from Eastern zone and north eastern states with direct face to face interaction. It is not that earlier participants from other parts of the country was not attending but limited to that from Government and Government sponsored institutions due to the financial assistance provided to them. But the ICT based programmes (with its obvious limitation) broke the barrier and the acquaintance became truly pan Indian.

I was very lucky to participate in various Regional Workshops on Technical Education System, organized by the Institute, and held periodically in different north

eastern states and in the capacity of coordinator in the 5th regional workshop held at Guwahati in April 2019. Curriculum development and revision was an alien field during my earlier career. NITTTR, Kolkata gave me the opportunity to learn the nuances of curriculum development and revision, particularly for diploma level and allowed me to participate in many workshops conducted by Curriculum development cell of the Institute.

I like to express my sincere thanks all my colleagues, technical & other support staffs from various departments, who has done commendable job with the resources we have and for guiding me in my effort to be a trainer.

I like to express my sincere thanks to our very young and dynamic colleagues for their ever willing attitude to help out in all problems in odd hours, particularly during conduction of online programmes and accepting me as one of them.

Finally, I like to acknowledge the cooperation I received from all the respected Directors, under whose guidance, my stay in NITTTR, Kolkata became a memorable one.

## Teachers' Training

Teachers' Training During the period of January - April 2022: 5677 numbers of Technical Teachers have been trained, through various Short-Term Training Programmes, broadly in the areas of Content Updating, Management, Pedagogy and Professional Skill development. A total of 83 training programs were conducted for the Teachers and Technicians of different Polytechnic colleges and Engineering colleges all over the Country during the 1st Quarter of the Year 2022. Due to the Pandemic situation, most of the programmes have been conducted in online mode along with few programmes through Contact Mode.

### List of Training Programmes (January – April, 2022)

Sl. No.	Programme Co-ordinator	Programme Code	Programme Title	From	To
1	Habiba Hussain	ICT244	Online Pedagogy	03/01/2022	07/01/2022
2	Rajeev Chatterjee	ICT245	Introduction to Coding Theory	03/01/2022	07/01/2022
3	Sagarika Pal	ICT246	Induction Training	03/01/2022	07/01/2022
4	Soumitra Kumar Mandal	ICT247	LABVIEW & MATLAB Applications in Engineering	03/01/2022	07/01/2022
5	Subrata Chattopadhyay	ICT248	Sensor Transducer And Signal Conditioning	03/01/2022	07/01/2022
6	Uday Chand Kumar	ICT249	Rural Engineering	03/01/2022	07/01/2022
7	Rayapati Subbarao	ICT266	NBA Accreditation and SAR preparation	03/01/2022	07/01/2022
8	Dipankar Bose	ICT250	Fusion Welding Processes	10/01/2022	14/01/2022

Sl. No.	Programme Co-ordinator	Programme Code	Programme Title	From	To
9	Sheela Yadav Rai	ICT251	Induction Training	10/01/2022	14/01/2022
10	Urmila Kar	ICT252	National Education Policy (NEP) 2020 – Reforms in Higher Education	10/01/2022	14/01/2022
11	Kinsuk Giri & Samir Roy	ICT253	Mathematical Foundation of Computer Science	10/01/2022	21/01/2022
12	Jagat Jyoti Mandal	ICT255	Concept Teaching in Geotechnical Engineering	17/01/2022	21/01/2021
13	Prasanta Sarkar	ICT256	Control System analysis and Design with MATLAB	17/01/2022	21/01/2022
14	Rayapati Subbarao	ICT257	How to write Thesis and Research paper	17/01/2022	21/01/2022
15	Santanu Bhanja	ICT258	Course on Commentary for Code on Ductility Design and Detailing of RC structures subjected to Seismic Forces - IS 13920 2016	17/01/2022	21/01/2022
16	Sukanta Kumar Naskar	ICT259	Induction Training	17/01/2022	21/01/2022
17	Chandan Chakraborty	ICT260	Probability and Statistics	17/01/2022	28/01/2022
18	Nirmal Kumar Mandal	ICT261	Machine Learning in Engineering	17/01/2022	21/01/2022
19	Indrajit Saha	ICT262	Technology Enabled Learning	24/01/2022	28/01/2022
20	Mithu Dey	ICT263	Engineering Drawing using Software	24/01/2022	28/01/2022
21	Sheela Yadav Rai	ICT264	Power Generation from Energy Resources	24/01/2022	28/01/2022
22	Santanu Bhanja	ICT265	Modelling, Analysis and Design of Buildings with Software	31/01/2022	04/02/2022
23	Dipankar Bose	ICT267	Non Traditional Machining Processes	07/02/2022	11/02/2022
24	Habiba Hussain	ICT268	Pedagogical Communication	07/02/2022	11/02/2022
25	Kinsuk Giri	ICT269	Introduction to PYTHON Programming	07/02/2022	11/02/2022
26	Sagarika Pal	ICT270	Control & Automation	07/02/2022	11/02/2022
27	Sailendra Nath Mandal	ICT271	Major Environmental Pollutants and Human Health	07/02/2022	11/02/2022
28	Sheela Yadav Rai	ICT272	Role of Technical Institutions in Community Development	07/02/2022	11/02/2022
29	Subrata Chattopadhyay	ICT273	Sensor Transducer And Signal Conditioning	07/02/2022	11/02/2022
30	Uday Chand Kumar	ICT274	Fundamental of Surveying	07/02/2022	11/02/2022
31	Jagat Jyoti Mandal	ICT275	Introduction to Finite Element method in Engineering	07/02/2022	18/02/2022
32	Arpan Kumar Mondal & Ranjan Dasgupta	ICT276	Complex Engineering Problems (CEP): Role in NBA accreditation process	14/02/2022	18/02/2022
33	Dipankar Bose	ICT277	Management Aspects of Laboratory Classes	14/02/2022	18/02/2022
34	Prasanta Sarkar	ICT278	Electricity Rules and Code of Practices	14/02/2022	18/02/2022
35	Samir Roy	ICT279	Artificial Intelligence	14/02/2022	18/02/2022
36	Chandan Chakraborty & Kinsuk Giri	ICT280	Machine Learning with Python	21/02/2022	25/02/2022
37	Indrajit Saha	ICT281	Fundamentals to Data Security	21/02/2022	25/02/2022
38	Nirmal Kumar Mandal & Santanu Bhanja	ICT282	Preview of Science and Technology in Ancient India	21/02/2022	25/02/2022
39	Sheela Yadav Rai	ICT283	Estimating & Costing of Non-conventional Energies	21/02/2022	25/02/2022
40	Urmila Kar	ICT284	Assessment and Evaluation under Outcome Based Education	21/02/2022	25/02/2022
41	Habiba Hussain	ICT285	Effective Teaching	28/02/2022	04/03/2022
42	Arpan Kumar Mondal & Ranjan Dasgupta	ICT254	Complex Engineering Problems (CEP) and Life Long Learning (LLL): Role in NBA Accreditation Process	28/02/2022	04/03/2022
43	Rayapati Subbarao	ICT286	NBA Accreditation for Polytechnics and Engineering Colleges	07/03/2022	11/03/2022
44	Arpan Kumar Mondal	ICT287	Advanced Welding Processes	07/03/2022	11/03/2022
45	Dipankar Bose	ICT288	Managing Aspects of Laboratory Classes	07/03/2022	11/03/2022
46	Nirmal Kumar Mandal & Santanu Bhanja	ICT289	Course on Vibration Analysis and its Application in Engineering Design	07/03/2022	11/03/2022
47	Sheela Yadav Rai	ICT290	Community Development through Technical Institutes	07/03/2022	11/03/2022
48	Subrata Chattopadhyay	ICT291	Computer Aided Instruction In Teaching Learning Process	07/03/2022	11/03/2022
49	Uday Chand Kumar	ICT292	Laboratory Practice on Civil Engineering Materials – NDT / SDT	07/03/2022	11/03/2022
50	Urmila Kar	ICT293	Quality Assurance through Accreditation (NBA Guidelines)	14/03/2022	18/03/2022
51	Mithu Dey	ICT294	Professional Values and Ethics	14/03/2022	18/03/2022
52	Prasanta Sarkar	ICT295	Engineering Capstone Project	14/03/2022	18/03/2022
53	Ranjan Dasgupta & Kinsuk Giri	ICT296	HPC and Cloud Computing	14/03/2022	18/03/2022
54	Rajeev Chatterjee & Samir Roy	ICT297	Object Oriented Design & Programming in C++	14/03/2022	18/03/2022
55	Sailendra Nath Mandal	ICT298	Environmental Pollution and Protective Measures	14/03/2022	18/03/2022
56	Nirmal Kumar Mandal	ICT299	MATLAB in Mechanical Engineering Applications	21/03/2022	25/03/2022
57	Chandan Chakraborty	ICT300	Pattern Recognition: Theory & Applications	21/03/2022	25/03/2022

Sl. No.	Programme Co-ordinator	Programme Code	Programme Title	From	To
58	Habiba Hussain	ICT301	Leadership in Academia	21/03/2022	25/03/2022
59	Sheela Yadav Rai	ICT302	Renewable Energy Sources and Emerging Technologies	21/03/2022	25/03/2022
60	Subrata Mondal	ICT303	Fundamental and Applications of Nanomaterials	21/03/2022	25/03/2022
61	Sukanta Kumar Naskar	ICT304	HRD through Training and Development	21/03/2022	25/03/2022
62	Dipankar Bose	ICT305	Hybrid Machining	21/03/2022	25/03/2022
63	Jagat Jyoti Mandal	ICT306	Geotechnical Aspects of Pile Foundations	21/03/2022	25/03/2022
64	Arpan Kumar Mondal & Ranjan Dasgupta	ICT307	NBA Accreditation Issues	28/03/2022	01/04/2022
65	Urmila Kar	ICT233	Active Learning under Engineering Education	28/03/2022	01/04/2022
66	Mithu Dey	CU01	Earthquake Resistant Structures (special emphasis will be given on FEMA-356, IS 1893-2016 and IS 13920-2016)	04/04/2022	08/04/2022
67	Kinsuk Giri	CU02	Introduction to SCILAB	04/04/2022	08/04/2022
68	Sukanta Kumar Naskar & Arpan Kumar Mondal	MGT01	Managerial and Technical Skills for Non-Teaching Employees	04/04/2022	08/04/2022
69	Sagarika Pal	PS01	Development of Laboratory Instruction and Manual	04/04/2022	08/04/2022
70	Sheela Yadav Rai	CU03	Power Generation from Energy Resources	04/04/2022	08/04/2022
71	Soumitra Kumar Mandal	CU04	Analog Electronics	04/04/2022	08/04/2022
72	Rajeev Chatterjee & Ranjan Dasgupta	CU05	Design and Development of Content for e-Learning	04/04/2022	15/04/2022
73	Nirmal Kumar Mandal	CU06	Refresher Course on Mechanical Engineering	11/04/2022	22/04/2022
74	Rajeev Chatterjee	CU07	Introduction to Coding Theory	18/04/2022	22/04/2022
75	Urmila Kar	PS02	Designing Curriculum under OBE	18/04/2022	22/04/2022
76	Sheela Yadav Rai	PS03	Role of Technical Institutions in Community Development	18/04/2022	22/04/2022
77	Subrata Mondal	PS04	Entrepreneurship Development	18/04/2022	22/04/2022
78	Sailendra Nath Mandal	PS05	Environmental Sampling and Analysis	18/04/2022	29/04/2022
79	Chandan Chakraborty	MGT02	Refresher Course on Research Methodology	18/04/2022	29/04/2022
80	Jagat Jyoti Mandal	CU08	Refresher Course in Geotechnical Engineering	25/04/2022	29/04/2022
81	Sukanta Kumar Naskar	MGT03	Institutional Management and Administrative Procedures	25/04/2022	29/04/2022
82	Prasanta Sarkar	CU09	Modern Control	25/04/2022	29/04/2022
83	Subrata Chattopadhyay	CU10	DC Machines and Transformer	25/04/2022	29/04/2022

## Workshop / Seminars

### National Seminar (web) on Composite Materials

Under the patronage of the Director, Prof. Debi Prasad Mishra, the Department of Mechanical Engineering, National Institute of Technical Teachers' Training and Research (NITTTR) Kolkata has been organized a national seminar (web) on "Composite Materials" on 26<sup>th</sup> March 2022 to bring together researchers, students, faculty members, technical staffs and industry personnel to share their knowledge in the fields of composite materials, properties and testing. Objectives of the national seminar were: (i) to share insight into various composite materials in order to design efficient and safe manufacturing processes; (ii) to explore applications of various composite materials; (iii) to explore challenges to fabricate composite and nanocomposite materials etc.

Dr. Debi Prasad Mishra, Professor and Director, NITTTR Kolkata welcomed the guests and participants. In the welcome speech, Prof. Mishra stressed upon the

sustainable composite materials for the welfare of mankind. Dr. Mishra has also discussed the composite materials in ancient times and applications of various matrix based composite materials. Dr. Uday Shankar Dixit, Professor, Department of Mechanical Engineering, Indian Institute of Technology, Guwahati was the Chief Guest for the inaugural session of the national seminar. In the inaugural speech Prof. Dixit has been nicely discussed the concept of composite materials, their different phases and properties. Further, Dr. Dixit stressed upon the mechanics of composite materials, natural reinforcement based composite materials and manufacturing of composite materials.

In the presentation and discussion session, Dr. Sivanandam Aravindan, Professor, Department of Mechanical Engineering, Indian Institute of Technology, Delhi gave a talk on joining of composites. Dr. Devendran Thirunavukarasu, Technical Director, ST Advanced Composites Pvt. Ltd., Chennai discussed the development and characterization of the natural fiber reinforced thermoplastic composites. Dr. Shailesh I. Kundalwal, Associate Professor, Department of

Mechanical Engineering, Indian Institute of Technology, Indore presented on multifunctional properties of hybrid nanocomposite via novel experimental and micromechanical techniques. Dr. Ramji Manoharan, Professor and Head of the Department, Department of Mechanical and Aerospace Engineering, Indian Institute of Technology, Hyderabad discussed on mechanics of bolted, bonded, and hybrid joint in CFRP structure. Dr. Naresh Datla, Associate Professor, Department of Mechanical Engineering, Indian Institute of Technology, Delhi gave a talk on aligned nanocomposites. Architected composites for enhanced performance has been discussed by Dr. Sandip Halder, Assistant Professor, School of Mechanical Science, Indian Institute of Technology, Goa. Last talk has been delivered on manufacturing of polymer composites by Dr. Subrata Mondal, Coordinator of the nation web seminar, Associate Professor, Department of Mechanical Engineering, NITTTR Kolkata. The National Seminar (web) has been organized successfully with the active support and help from Dr. Dipankar Bose, Professor and Head of the Department, Department of Mechanical Engineering, NITTTR Kolkata and Dr. Rayapati Subbarao, Associate Professor, Department of Mechanical Engineering, NITTTR Kolkata.

## List of Talks Delivered by Prof. Debi Prasad Mishra, Director, NITTTR, Kolkata

### A. In programmes organized by NITTTR, Kolkata

1. Celebration of 58th Foundation Day of NITTTR, Kolkata on 11th January 2022 Chief Guest Prof. Deepak B. Phatak
2. Professional Certificate Course on Innovation, Entrepreneurship and IPR from 31/01/2022 to 04/02/2022 organized by NITTTR, Kolkata and NUJS Kolkata
3. "Azadi ka Amrit Mohatsav" to celebrate the "India @ 75", a medical camp for distribution of Ayurvedic medicines i.e Guduchi Ghana Vati /Samsamani Vati /Aswagandha Ghana Vati /Ayush 64/Ayur Raksaha Kit, et.c free of cost for COVID-19 on 22-02-2022 organized by Central Ayurveda Research Institute CCRAS, Ministry of AYUSH, Government of India
4. Hindi Workshop on 21-2-2022 organized by NITTTR Kolkata

### B. In programmes organized by other institutions

5. Speaker, National Webinar on Bhagwat Gita, The art of Living on 2nd January, 2022 organized by Delhi Technological University
6. Chief Speaker, Anandam Foundation on 23rd January, 2022
7. Guest Speaker, Science and Traditional Medicine in India as part of the events of Science Week 2022 - Vigyan Sarvatra Puujate on 26th February, 2022 organized by Central Ayurveda Research Institute
8. Guest of Honour, Valedictory function of AICTE-ISTE Refresher Programme on Disaster Vulnerability Atlas of India and Preventive Measures on 26th February 2022 organized by Govt. Polytechnic, Kendrapara
9. Guest Speaker, International Conference on Materials, Mechanics & Modelling (ICMMM 2021-22) during March 4-6, 2022 organized by NIT Jamshedpur.
10. Guest Speaker, Prof. Amitava Bhattacharyya Memorial Workshop (under UGC sponsored CAS-V project 2018-2023) on Demystifying Pansophy on 16th March 2022 organized by Jadavpur University as a Chief Guest in the inaugural function of the workshop.
11. Patron, National Webinar, Awake Mother India in Collaboration with BSNVPG college, Lucknow on 26th March, 2022
12. Chief Guest, Workshop on Skill Development of Graduates in General Streams under National Apprenticeship Training Scheme on 29th March 2022 organized by Board of Practical Training (Eastern Region), Kolkata and National Institute of Technical Teachers' and Research, Kolkata
13. Guest Speaker, ISDS officer Training (Foundation Course) on 30th March, 2022 organized by CSTRI, Kolkata
14. Delivered speech on personality development to B.Tech Students of Seacom Engineering College, Dhulagarh, Howrah on 08.04.2022 at 12:00.
15. Delivered Lecture, Resource Person in the Faculty Development Program on 23rd April 2022 at 10.00 a.m on "Concept of law and legal system in ancient India organized by WBNUJS.
16. Delivered Speech on Research Conclave 2022 on 24<sup>th</sup> April 2022 organized NIT Jamshedpur.

## Invited Lectures by Faculty Members

- **Dr. Indrajit Saha** delivered an invited talk on “Machine Learning in Bioinformatics”, on 23<sup>rd</sup> March, 2022, in a FDP on “Data Intelligence and Computation” from 22<sup>nd</sup> to 26<sup>th</sup> March, 2022, organized by National Institute of Technology, Warangal.
- **Prof. J. J. Mandal** delivered lecture in seminar organised by Indian Geotechnical Society Silchar Chapter and the Department of Civil Engineering, NIT Silchar on 10<sup>th</sup> April, 2022 on “Analysis & Design of Beams and Plates on Vlasov Foundation”.
- **Dr. S. K. Naskar** has taken two sessions of a programme coordinated by CSTARI-Kolkata for the newly inducted asst. Directors recruited through IES by UPSC for DGT- MSDE, Govt. of India in the month of March 2022.
- **Dr. S. K. Naskar** has taken two sessions of a programme coordinated jointly by NITTR-Kolkata and WBNUJS in the month of Feb, 2022.
- **Dr. Habiba Hussain** delivered an invited talk on 31<sup>st</sup> January 2022 on the topic ‘NEP 2022’, in a AICTE-ISTE Sponsored Refresher program on Application of ETAP for design & analysis of power system network during 25<sup>th</sup> to 31<sup>st</sup> January 2022 organised by MCVK Institute of Engineering, Kolkata.
- **Dr. Kinsuk Giri** delivered an invited talk in Career Counseling, One Day College Level Webinar, 5<sup>th</sup> January, 2022, Bajkul Milani Mahavidyalaya, Kismat Bajkul, West Bengal, India.
- **Dr. Kinsuk Giri** delivered an invited talk in Research Methodologies and Methods, Training Program for Newly Recruited IES, 15<sup>th</sup> March, 2022, CSTARI, Kolkata, India.
- **Dr. Kinsuk Giri** delivered an invited talk in Fundamentals of Data Science, 5-Day International Workshop on Data Science & its Applications, 28<sup>th</sup> April, Adamas University, Kolkata, India.
- **Prof. J. J. Mandal** delivered lecture in seminar organised by Indian Geotechnical Society Silchar Chapter and the Department of Civil Engineering, NIT Silchar on 10<sup>th</sup> April, 2022 on “Analysis & Design of Beams and Plates on Vlasov Foundation”.

## Publications

- Asifuzzaman Lasker, Mridul Ghosh, Md Obaidullah Sk, **Chandan Chakraborty** and Kaushik Roy, “Deep Features for COVID-19 Detection: Performance Evaluation on Multiple Classifiers”, in 4th International Conference on Computational Intelligence in Pattern Recognition (CIPR-2022), Kolkata, India, proceedings by Springer (accepted)
- Asifuzzaman Lasker, Mridul Ghosh, Md Obaidullah Sk, **Chandan Chakraborty** and Kaushik Roy “Deep learning framework for Covid-19 identification from chest X-ray” in Advancement of Deep Learning and its Applications in Object Detection and Recognition, Rivers Publication, Denmark (accepted), 2022
- KK Chakraborty, R Mukherjee, **C Chakraborty**, K Bora, “Automated recognition of optical image based potato leaf blight diseases using deep learning, Physiological and Molecular Plant Pathology”, 117 (2022).
- A.K. Dutta, **J.J. Mandal**, D. Bandyopadhyay, “Application of Quintic Displacement Function in Static Analysis of Deep Beams on Elastic Foundation, Architecture Structure and Construction”. Published by Springer Nature, Accepted on 28/01/2022
- A.K. Dutta, **J.J. Mandal**, D. Bandyopadhyay, “Free Vibration Analysis of Beams on Elastic Foundation Using Quintic Displacement Functions, ISET Journal of Earthquake Technology”. Accepted on 08/01/2022
- Anasuya Mondal and **Santanu Bhanja**, “Augmentation of Abrams Law for Fly Ash Concrete”, Materials Today Proceedings, March, 2022 , 10.1016/j.matpr, 2022.03.204
- N. Ghosh, **Indrajit Saha**, D. Plewczynski, “Genome-wide Analysis to Identify Palindromes, Mirror and Inverted Repeats in SARS-CoV-2, MERS-CoV and SARS-CoV-1”, IEEE Access, Vol. 10, pp. 23708 - 23715, 2022. [Impact Factor: 3.367]
- N. Ghosh, S. Nandi, **Indrajit Saha**, “A Review on Evolution of Emerging SARS-CoV-2 Variants based on Spike Glycoprotein”, International Immunopharmacology, Vol. 105, pp. 108565, 2022. [Impact Factor: 4.932]
- N. Ghosha, **Indrajit Saha**, N. Sharma, “Palindromic Target Site Identification in SARS-CoV-2, MERS-CoV



and SARS-CoV-1 by Adopting CRISPR-Cas Technique”, Gene, Vol. 818, pp. 146136, 2022. [Impact Factor: 3.688]

- **Kinsuk Giri** and Prabir Rudra, Nuclear Physics B, Elsevier, “Constraints on cubic and  $f(P)$  gravity from the cosmic chronometers, BAO & CMB datasets: Use of machine learning algorithms & quot”; Volume 978, No 115746, 2022.
- Susmita Singh, **Kinsuk Giri**, Adrita Chaudhury and Somerup Ponda, “Computational Modelling of Surface Modified Carbon Nanotube for Polymer Electrolyte Membrane Fuel Cell (PEMFC)”, ICTFC-2022, Sakarya University of Applied Sciences, Sakarya, Turkey, Jan 6- 8, 2022.
- Susmita Singh, **Kinsuk Giri**, Adrita Chaudhury and Somerup Ponda, “Computational Modelling of Surface Modified Carbon Nanotube for Low Temperature Fuel Cell Number & quot”; IRRET-2022, India, March 16-17, 2022.
- Kunal Kumar and **Subrata Mondal**, Fabrication and characterization of carbon nanotube reinforced copper matrix nanocomposites, Canadian Metallurgical Quarterly, 61 (1), 77-84, 2022, SCI, Impact Factor: 1.212.

### Book Chapters

- **S. Mondal**, Chapter 3: Fibers as containers for encapsulation, In Micro and Nanocontainers for Smart Applications, Eds: Jyotishkumar Parameswaranpillai, Nisa Salim, Hari Krishnan Pulikalparambil, Sanjay Mavinkere Rangappa and Suchart Siengchin, Feb 2022, ISBN: 978-981-16-8145-5, eISBN: 978-981-16-8146-2, Springer Nature, Singapore.

## Miscellaneous

### MOOCs

Course Name: Fundamentals of Problem Based Learning

Start Date: 31.01.2022

End Date: 30.04.2022

Coordinator: Dr. Indrajit Saha,

Co-coordinators: Dr. Sagarika Pal, Dr. Kinsuk Giri, Dr.

Arpan Kumar Mandal

Category: Teacher Education

Learners Enrolled: 206

- Mentor Orientation Training Program under AICTE-NITTT was co-coordinated by Dr. Indrajit Saha from 07.02.2022 to 11.02.2022
- Prof. S. Bhanja, developed one Video presentation (Virtual Lab) on Earthquake Engineering Laboratory. Title of the Experiment – “Determination of the Resonant Frequency of a SDOF system using Electro-Dynamic Shake Table”.
- Dr. S.K.Naskar coordinated Swami Vivekannanda Jayantai Celebration and unveiling the statue of Swamiji in front of the M.Tech hostel. Swami Suparnananda, Secretary, R.K.M Institute of Culture, Kolkata, did unveiling the statue.
- Dr. S.K.Naskar coordinated a virtual interaction with Mr. Vaibhav Goel, Sr. Vice President HR, Reliance industries Ltd, Mumbai during 13.01.2022 for M.Tech Students. Theme of interaction was Placement opportunities and preparedness of students in line with changing needs of the industries.
- Dr. S.K.Naskar convened and coordinated a meeting with Director, BOPT (ER) and HODS of engineering branches of NITTTR-Kolkata to explore possibilities of conducting students internship and students project in collaboration with BOPT(ER) during 10.03.22.

### Workshops conducted

- Dr. S. K. Naskar jointly coordinated the workshop on Skill Development of graduates in general streams under National Apprenticeship Training Scheme (NATS). Workshop was conducted jointly by NITTTR, Kolkata and BOPT(ER) and held ant BOPT(ER), Kolkata during 29<sup>th</sup> March, 2022.
- Dr. S. K. Naskar coordinated virtual workshop with DTEs of different states as a part of preparing the Programme Calendar of the institute for the year 2022-23 during 3<sup>rd</sup> March, 2022.
- Dr. Habiba Hussain conducted 1-day Online workshop on Copyright guide for Indian libraries” on 4<sup>th</sup> January, 2022 for faculty, staff of NITTTR, Kolkata, M. Tech. students & Research scholars of the Institute.
- Dr. Habiba Hussain conducted an online curriculum workshop on 25<sup>th</sup> March 2022 for the state of Arunachal Pradesh to prepare draft structure of curricula for 2<sup>nd</sup> & 3<sup>rd</sup> years diploma curricula.



## Accepted Project, Dr. Kinsuk Giri as Co-PI:

1. Title: Development of a novel plurimetalllic electrocatalyst supported on irradiation-induced Carbon allotrope for Low Temperature Fuel Cell, CRS Project Proposal at UGC-DAE Consortium for Scientific Research, Ref: 2021/CRS/58/44/758, INR 65000, UGC- DAE



## INSTITUTE EVENTS

### Online Celebration of 131st Ambedkar Jayanti

NITTTR, Kolkata, virtually celebrated 131st Ambedkar Jayanti on 14th April 2022 under the Coordination of Prof. S. N Mandal, Professor, Department of Civil Engineering to mark the birth anniversary of Dr. Bhim Rao Ambedkar, the principal architect of the Constitution of India

The event commenced at 4.00 p.m. with welcome address to the gathering by Prof. S. N. Mandal. Then Prof. Mandal mentioned the impact and significance of Ambedkar Jayanti. Prof. S. N. Mandal in his address highlighted the life & contributions of Dr. Ambedkar and how he becomes a famous personality through excellent academic achievements with limited resources & challenges. He said, "He is remembered as the father of the Indian Constitution, Ambedkar was multi-faceted, prominent economist & social reformer".

Prof. P. Sarkar, Professor, Department of Electrical Engineering in his speech, mentioned Babsaheb an Indian jurist, politician, philosopher, anthropologist, historian, and economist who was a key architect of the Indian Constitution.

Mr. Shubham Gautam, M.Tech Student of Electrical Engineering, highlighted the importance and significance of Dr. Babasaheb Ambedkar educational careers. He also mentioned contributions of Babasheb to the uplift of lower caste people.

Mr. Sitesh Anand, M.Tech Student of Mechanical Engineering mentioned "Ambedkar's life and actions have been a source of inspiration for crores all over the world".

Mr. P. D. Siyodia, Co-Coordinator and Sr. Technical Assistant, Department of Civil Engineering mentioned "Ambedkar was a legal luminary, visionary statesman, outstanding constitutional expert, brilliant parliamentarian & social reformer. He was the voice of the socially oppressed and dedicated his life to the upliftment of the marginalized sections of society. His iconic life and noble thoughts continue to guide the nation."

Prof. Debi Prasad Mishra, honorable Director of NITTTR, Kolkata, in his speech, mentioned the significance of Baba Saheb's life. "We should take inspiration from the life of this great son of India. A true homage to Dr Ambedkar would be to develop our country on the principles of 'social and economic justice' ", the Director said.

At the end, a vote of thanks has been given by Prof. S. N Mandal, Coordinator of Dr. B R Ambedkar Jayanti Celebration Committee

## Activities of LRC

Activities of LRC during the mentioned period are as follows-

### I. List of educational resources developed during the period

Twenty three (22) GD Lecture videos have recorded during this period besides this four (4 nos) Virtual Lab video have recorded during this period.

Sl No	Name of the Video Film Contributor/Content Expert
1.	Thermodynamics XV Dr. Rayapati Subba Rao, NITTTR, Kolkata
2.	Thermodynamics XVI Dr. Rayapati Subba Rao, NITTTR, Kolkata
3.	Thermodynamics XVII Dr. Rayapati Subba Rao, NITTTR, Kolkata
4.	Thermodynamics XVIII Dr. Rayapati Subba Rao, NITTTR, Kolkata

Sl No	Name of the Video Film Contributor/Content Expert
5.	Entropy Dr. Rayapati Subba Rao, NITTTR, Kolkata
6.	Ancient India Part I Dr. Debi Prasad Mishra, NITTTR, Kolkata
7.	Ancient India Part II Dr. Debi Prasad Mishra, NITTTR, Kolkata
8.	Bayesian Classification with Application Dr. Chandan Chakraborty, NITTTR, Kolkata
9.	Introduction to Machine Intelligence Dr. Chandan Chakraborty, NITTTR, Kolkata
10	Introduction to Fluid Statistics and its application Dr. Chandan Guha, J.U., Kolkata
11.	Fluids Dynamics Dr. Chandan Guha, J.U., Kolkata
12.	Emotional Intelligence P I Dr.Rita Karmakar, Amity University
13.	Emotional Intelligence P II Dr.Rita Karmakar, Amity University
14.	Introduction to Optimization L 1 Prof. Nirmal K Mandal, NITTTR, Kolkata
15.	Introduction to Optimization L 2 Prof. Nirmal K Mandal, NITTTR, Kolkata
16.	Leading With Effective Communication P I Dr. Habiba Hussain, NITTTR, Kolkata
17.	NEP 2020 P I V1 Dr. Urmila Kar, NITTTR, Kolkata
18.	NEP 2020 P I V2 Dr. Urmila Kar, NITTTR, Kolkata
19.	Institutional Management and Administrative Process P I Dr. S K Naskar, NITTTR, Kolkata
20.	Institutional Management and Administrative Process P II Dr. S K Naskar, NITTTR, Kolkata
21.	Basic Importance of Optimization P-I Dr. Kinsuk Giri, NITTTR, Kolkata
22.	Linear Programming Problem Dr. Kinsuk Giri, NITTTR, Kolkata

## List of Virtual Classroom video

Name of the Dept. Name of the Video Film
<b>Mechanical Engineering Department</b> Exp. 1: Manual Metal Arc Welding (MMAW) Exp. 2: Submerged Arc Welding (SAW) Exp. 3: Tungsten Inert Gas (TIG) Welding Exp. 4: Gas Metal Arc Welding (GMAW)
<b>Computer Science and Engineering Department</b> Exp. 1: Implementation of Open Shortest Path First (OSPF)
<b>Civil Engineering Department</b> Exp. 1: Earthquake Engineering Laboratory

## II. Photographs of events during the said period

During this period, nine events were covered:

- Celebration of 58<sup>th</sup> Foundation Day of NITTTR, Kolkata on 11.01.2022





b) Celebration of Swami Vivekananda Birthday at NITTR, Kolkata on 12.01.2022



d) Observation of the 125<sup>th</sup> Birth Anniversary of Netaji Subhash Chandra Bose on January 23, 2022



c) Medical Camp organized by National Institute of Homeopathy, Ministry of AYUSH, Govt. of India at NITTR, Kolkata Auditorium on January 21, 2022





f) "Hindi Workshop" organized by NITTTR, Kolkata, guest lecture by representative of Official Language Section of Higher Education Dept., Govt. of India on 21.02.2022



h) Visit of Indian Engineering Service (IES) trainees at NITTTR, Kolkata on 15.03.2022 accompanied by CSTARI, Kolkata representative



i) "Pariksha Pe Charcha" an online interactive program with Hon'ble Prime Minister of India with student, Teachers and Parents on April 1, 2022.



g) Medical Camp organized by Central Ayurveda Research Institute, Ministry of AYUSH, Govt. of India Salt lake campus at NITTTR, Kolkata auditorium on 22.02.2022.



**III. Any other news item worth publishing.**

Recently an e-Classroom facility have been developed by LRC at the Chanakya Bhavan, 1<sup>st</sup> Floor, Opposite to server Room.









### NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH, KOLKATA

Block-FC, Sector-III, Salt Lake City, Kolkata-700106

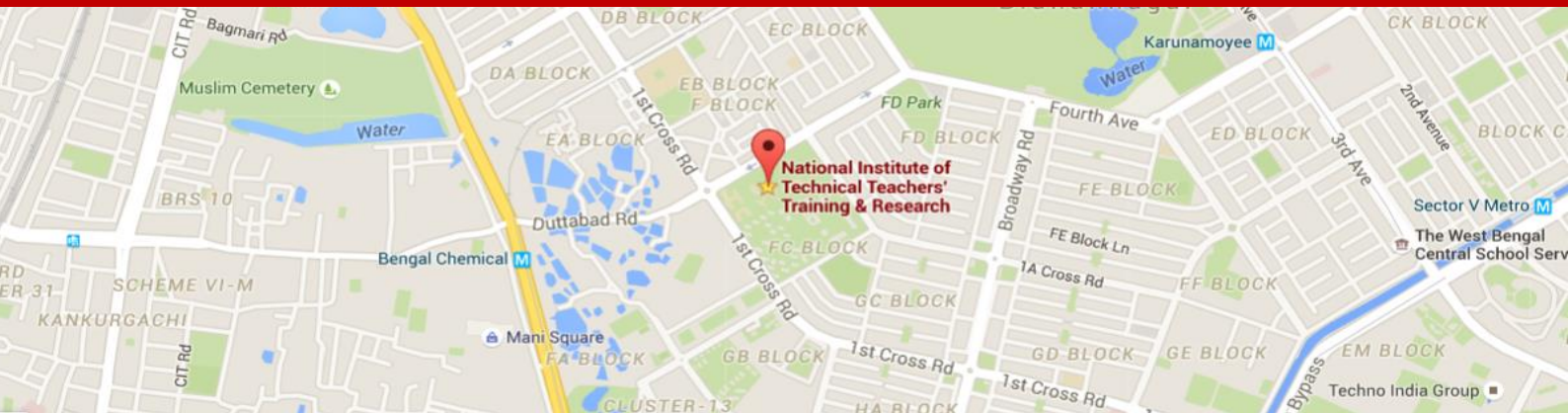
Phone: +91-33-66251900, Email: [ds@nittrkol.ac.in](mailto:ds@nittrkol.ac.in)

Visit us at [www.nittrkol.ac.in](http://www.nittrkol.ac.in)

#### How to Reach NITTR, Kolkata

The Institute is located near Labony Bus Stand (Sector-III), FC Block in Salt Lake City, Kolkata 700106 and can be reached by taxi from Netaji Subhas Chandra Bose International Airport and also from Howrah, Shalimar, Sealdah and Kolkata Railway Stations.

**“Tell me and I forget. Teach me and I remember. Involve me and I learn” - Benjamin Franklin**



#### Distance:

- From Howrah Railway Station: **42 min** (8.1 km) via Maniktala Main Road
- From Sealdah Station: **26 min** (7.4 km) via Beliaghata Main Road and Broadway Road
- From Kolkata Railway Station: **16 min** (4.8 km) via Canal Circular Road
- From Shalimar Station: **38 min** (18.8 km) via Parama Island Flyover
- From Netaji Subhas Chandra Bose International Airport: **27 min** (11.5 km) via Kazi Nazrul Islam Sarani/VIP Road

Google map link: <https://goo.gl/maps/F7gssJoeqxSvffqf9>



#### Newsletter Committee, NITTR Kolkata

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