FROM THE DIRECTOR’S DESK

Dear Friends:

I am overjoyed to announce that IIT(ISM) has registered a solid footing in the recent QS rankings-2022 by subject. We are ranked first in the country for Mineral & Mining Engineering and ranked second overall at 26th.

Furthermore, in the ARIIA Ranking 2021, we were ranked in Band Excellent. These triumphs, of course, are the most satisfying and motivate us to strive for greater heights with greater passion and determination. We’ve had plenty of reasons to rejoice, celebrate, and make new beginnings in the last several months. Another cause to rejoice is that the soul/students of IIT(ISM) are back now.

The SPORTS GENERAL CHAMPIONSHIP (SGC) 2021-22 was the institute’s first major sporting event following the sports pandemic. At the beginning of April, we also conducted the Student Gymkhana Elections 2022. Following that, the student clubs organized a series of activities and also bid farewell to the clubs’ seniors.

Despite our best efforts, we were forced to hold BASANT 2022 in an online format. The alumni are the true stars of this festival, without whom it would be dull. Hoping that spring arrives in full force next year, with the presence of our alumni on campus for the first time.

There are some promising advancements in the areas of research and innovation. The initiatives of NVCTI, ACIC and TexMin are commendable even at this early stage. ACIC currently has a new office in the recently constructed CRE building. I would like to express my heartfelt congratulations to my students who have excelled in international competitions.

In this issue of our Newsletter, we have covered all of the Institute’s achievements, alumni stories, and a start-up account from one of our most treasured grads.

The Institute lost some of our cherished faculty members, students, and alumni. IIT(ISM) sends its sincerest condolences to their families for these unrecoverable losses. May their souls eternally rest in peace.

The fresh start to the year packs a lot of potentials to scale great heights. I applaud and congratulate the faculty, students, staff, alumni, and other stakeholders for their tireless work.

Stay Safe!

FROM THE EDITOR’S DESK

Greetings, Readers!

We are back with a fresh new edition. This issue of the newsletter features the new success stories of IIT(ISM) and highlights some fascinating accounts from a variety of IIT(ISM) activities, including research, outstanding achievements by our students and faculty members, and alumni stories. I hope you enjoy them.

We love receiving entries from our alumni, and we hope you will continue to support us as we publish our Newsletters in the future. For more information, visit our website, Twitter, LinkedIn, Instagram, and Facebook accounts.

Please email us your feedback at mbc@iitism.ac.in.

Cheers!

IIT(ISM) REACHES A NEW HIGH IN QS UNIVERSITY RANKINGS 2022

Ranked 26th globally in Engineering-Mineral & Mining
Globally Highest Ranked Engineering Dept. in the country
India’s Second Highest Ranked University by Subject
The ISMAANA Scholarship Programs are designed to:
- Reward students for their academic achievements,
- Assist students with their efforts for higher learning.

Currently, ISMAANA offers two types of ongoing scholarship and academic excellence programs: Merit cum Means (MCM) Scholarships & Academic Excellence Awards.

### MERIT CUM MEANS (MCM) SCHOLARSHIPS

The MCM scholarships were initiated in 2017, and ISMAANA now has alumni commitments for 60 of them, which are based on family income and academic performance. These scholarships range from Rs.75,000 to Rs.100,000 each year. These grants are primarily meant to help students with the costs of accommodation, board, and transportation.

During the 2021-22 academic year, 38 undergraduate scholarships were extended for students who had carried over their scholarships from the previous year, while 22 new recipients were chosen from new applications at the start of the second semester in Jan 2022. Given below is a list of our generous alumni, along with the number of scholarships they each support.

Ishwar Singh (PE’70) has instituted a $3000/year scholarship in the Texas A&M University (TAMU) Petroleum Engg Dept for an IIT (ISM) graduate pursuing a Master’s or PhD degree at TAMU. The scholarship began in the Fall of 2021.

### ACADEMIC EXCELLENCE AWARDS

ISMAANA introduced the Academic Excellence Awards in 2015 to recognize the top two students from each of the four earth science branches based on their academic performance over the previous three years. The list of eight final-year students who received ISMAANA academic excellence awards in Nov 2021 is as follows. Each of these awards is worth Rs.46,500.

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Student Name</th>
<th>Branch</th>
<th>CGPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mr. Madhav Singhal</td>
<td>B.TECH, ME</td>
<td>9.04</td>
</tr>
<tr>
<td>2</td>
<td>Mr. Aniruddhe Anand</td>
<td>B.TECH, ME</td>
<td>8.79</td>
</tr>
<tr>
<td>3</td>
<td>Mr. Shashank Shekhar</td>
<td>B.TECH, PE</td>
<td>9.31</td>
</tr>
<tr>
<td>4</td>
<td>Mr. Anurag Jain</td>
<td>B.TECH, PE</td>
<td>9.13</td>
</tr>
<tr>
<td>5</td>
<td>Mr. Sudeep K. Gupta</td>
<td>MSc TECH, AGP</td>
<td>9.01</td>
</tr>
<tr>
<td>6</td>
<td>Mr. Anika Jaiswal</td>
<td>MSc TECH, AGP</td>
<td>8.67</td>
</tr>
<tr>
<td>7</td>
<td>Mr. Mohammed Fazal Khattar</td>
<td>MSc TECH, AGP</td>
<td>8.74</td>
</tr>
<tr>
<td>8</td>
<td>Ms. Leeviya TS</td>
<td>MSc TECH, AGP</td>
<td>8.30</td>
</tr>
</tbody>
</table>

In August 2022, the top eight students in four earth science branches and four major departments of electrical, mechanical, electronic engineering, and computer science will be granted these eight academic achievement honors.

For more information on ISMAANA Scholarship Programs contact Mr. Dipak Sarkar, Email: dksarkareoel.com

Heartiest Congratulations to Prof. Dheeraj Kumar on assuming the position of Deputy Director, IIT(ISM) Dhanbad.
### IIT(ISM) CENTENARY CELEBRATION 2026

In order to commemorate the 100th founding anniversary of IIT(ISM) in 2026, a proposal for the formation of a “Centenary Celebration Committee” has been submitted. The committee will coordinate the activities and modalities of the Centenary celebration to raise an endowment fund of Rs. 100 Cr/- by 2026 for funding the identified projects as a mark of the centenary celebration. Members of the committee will include leading alumni from industry, Govt. services, and academia. Committee will be constituted by the Patron, IIT(ISM) in consultation with the executive committee and notified soon. **Gear up for the Centenary Celebration!**

### IIT(ISM) ALUMNI ASSOCIATION GENERAL BODY MEETING (GBM) – 2022: A REPORT

- To change the name of the association from “ISM Purva Vidyarthi Sangh” to “IIT(ISM) Alumni Association”.
- Reconstitution of the General Body of the IIT(ISM) Alumni Association Chapter and selection of new office bearers on a nomination basis.
- Propose the formation of a “Centenary Celebration Committee” in view of the Centenary celebration scheduled in 2026.
- It was decided that the members of the executive committee will be selected from the members of the general body of the society, with a minimum of six (06) members. Initially, the members will be chosen by nomination, but elections may be held in the future. The existing executive members will be eligible for re-elections.
- The executive committee shall meet once every two months.
- Any resolution or decision in the General Body Meeting shall be approved by a majority of the votes cast.
- Notice for the meeting will be circulated at least 10 days prior to the date of the meeting via registered mail or email.

### PROPOSED & NOMINATED EXECUTIVE COMMITTEE

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Designation</th>
<th>Proposed Name</th>
<th>Nominated Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Patron</td>
<td>Prof. Rajiv Shekhar, Director IIT(ISM), Dhanbad</td>
<td>Prof. Rajiv Shekhar, Director IIT(ISM), Dhanbad</td>
</tr>
<tr>
<td>2</td>
<td>President</td>
<td>Shri Dipak Sarkar</td>
<td>Shri Dipak Sarkar</td>
</tr>
<tr>
<td>3</td>
<td>Vice President</td>
<td>Shri Ashok Sabharwal</td>
<td>Shri Ashok Sabharwal</td>
</tr>
<tr>
<td>4</td>
<td>Vice President</td>
<td>Prof. Biswajit Paul</td>
<td>Prof. Biswajit Paul</td>
</tr>
<tr>
<td>5</td>
<td>Vice President</td>
<td>Shri Ashwani Kumar</td>
<td>Shri Ashwani Kumar</td>
</tr>
<tr>
<td>6</td>
<td>Vice President</td>
<td>Shri Ajay Kumar Maitha</td>
<td>Shri Ajay Kumar Maitha</td>
</tr>
<tr>
<td>7</td>
<td>Vice President</td>
<td>Shri Niladri Roy</td>
<td>Shri Niladri Roy</td>
</tr>
<tr>
<td>8</td>
<td>General Secretary</td>
<td>Prof. Rajeev Upadhyay</td>
<td>Prof. Rajeev Upadhyay</td>
</tr>
<tr>
<td>9</td>
<td>Joint Secretary</td>
<td>Prof. ACS Rao</td>
<td>Prof. ACS Rao</td>
</tr>
<tr>
<td>10</td>
<td>Treasurer</td>
<td>Prof. Gauri Shankar</td>
<td>Prof. Gauri Shankar</td>
</tr>
<tr>
<td>11</td>
<td>Co-Treasurer</td>
<td>Prof. Ajit Kumar</td>
<td>Prof. Ajit Kumar</td>
</tr>
</tbody>
</table>
**IIT(ISM) ON THE RESEARCH FRONT**

IIT(ISM) has accelerated its research activities and engaged in real-world problem solving, knowledge development, and dissemination in order to achieve excellence. There is a healthy exchange of ideas between faculty and their research teams, which has resulted in a fertile research environment, as evidenced by projects, publication in premier scholarly journals, book publications, book chapters, and monographs, signing of MoUs, and webinars/seminars.

**THE LACQUE STORY: MAKING JHARKHAND’S LAC FARMERS SELF-RELIANT**

Lac is a gift from Mother Nature to humanity. It is the only animal resin that is commercially accessible. Lac insects, a type of bug, emit a solidified resin. To make 1 kg of lac resin, around 300,000 insects are killed. Lac insects are responsible for a variety of things, including resin, lac color, and lac wax. Jharkhand is the major lac producer, and for many farmers, it is their sole source of income. Thus, IIT (ISM) has developed a new platform that will help lacque production farmers in increasing their income without the involvement of middlemen. Blockchain technology is being utilized to build a website that will connect farmers and industry and allow them to collaborate. **Prof. Shashank Bansal**, Dept of MS, and **Prof. Ruchika Sehgal**, Dept of M&C have been working on this project along with a professor at the University of Hyderabad. The team is designing a web portal and a mobile app where the farmers can directly deal with the customers.

**ARID REGION RECLAMATION TECHNOLOGY FOR LIGNITE MINING AREAS IN KUTCH, GUJARAT**

The research team led by **Prof. Biswajit Paul**, Dept. of Environmental Science & Engineering is working on “Arid Region Reclamation Technology for Lignite Mining Areas in Kutch, Gujarat.” The Department of Science and Technology had assigned the research and development project to the institute to reclaim the lignite mining area in Umarsar, adjacent to the Indo-Pak border in the Kutch district of Gujarat. The Science for Equity, Empowerment, and Development (SEED) division funded the project. Prof. Paul shares that they have used drip and micro irrigation systems for irrigation in the barren land. The water treatment plant makes the acidic water reusable which is then used for irrigation, and the remaining water is discharged into lakes and rivers. The same model is now being implemented on the campus and its vicinities to inform the students, farmers, and youth about reclaiming the barren land.

**SOLID ORGANIC WASTE A SERIOUS CONCERN, BUT IIT(ISM) DHANBAD HAS A SOLUTION THROUGH ROWS**

Solid organic waste is one of the concerns we neglect because we believe it will decompose on its own. Solid organic waste is usually disposed of in landfills, where bacteria break it down anaerobically and produce methane. The bad news is that methane is around 20 times more toxic in the atmosphere than carbon dioxide. Managing solid organic waste is a serious concern not only for India but for the entire world.

**Prof SK Gupta**, Dept of Environmental Science and Engg., has headed a research team that has discovered a means to turn trash into nutrient-rich fertilizer. They have developed a machine that can turn solid organic waste into nutrient-rich fertilizer in just 4-6 hours. The Rapid Organic Waste Stabilizer (ROWS) is a machine that uses a thermal digestion approach to stabilize organic waste. This technique aids in the rapid removal of moisture and its volume to more than 80%-90%, of pathogens, and converts organic components into nutrient-rich end products. Waste is broken down into very fine particles, less than 10mm, using this process. Next, these particles are uniformly heated at a temperature of roughly 150 degrees Celsius, yielding a nutrient-rich product that can be utilized for agricultural applications. The entire procedure is carried out within ROWS. By feeding 100kg of SOW, approximately 20-25kg of organic fertilizer can be created, hence reducing waste volume. This technology has got Indian Patent (Patent No. 373169) and is now being commercialized. ROWS takes up less space, is simple to use, and requires little upkeep.

More on Page 16
The concerns posed by global warming to humans in many regions of the world have prompted us to debate the point: what steps should be taken to limit the risk of climate change? The rising CO2 concentration has resulted in uncontrollable consequences for climate change, such as increased warmth and desertification, glacier melting, and sea-level rise. CO2 is the most common greenhouse gas emitted by a variety of sources, including stationary, mobile, and natural sources.

According to a recent report from the Mauna Loa Observatory, global CO2 levels have reached an all-time high of 416 ppm. This indicates a 47 percent increase since the start of the industrial revolution, when the concentration was 280 ppm, and an 11 percent increase since 2000 when it was 370 ppm. It has recently been seen that the Amazon rainforest emits more CO2 than it absorbs, owing to deforestation. It is predicted that if the current trends continue, CO2 concentrations are expected to reach 500 ppm by the 22nd century, making global temperatures unbearable.

India recently surpassed the 400 ppm level, indicating a 12.6 percent increase by 2020. India currently produces roughly 2.7 billion tonnes of CO2, which is a little less than the European Union (2.8 billion tonnes). As a result, India alone accounts for 7% of world emissions. To consider the restoration of the natural ecosystem and the smooth functioning of human existence, it is critical to reducing CO2 concentrations directly using a variety of methods.

**IIT(ISM)'s New Technology for Cleaning, Compressing, and Fixing Waste CO2**

The research team led by Prof. Biswajit Chowdhary, Dept. of Chemistry has developed a catalyst for the synthesis of cyclic carbonates, value-added products from the reaction of epoxide and CO2. The two most common approaches are carbon capture and storage (CCS) and carbon capture and utilization (CCU). CCS is an innovative process that captures, cleans, and compresses waste CO2 before transporting it to a permanent subterranean storage location. Although this method is difficult, especially when capturing CO2 in low-concentration areas. In this procedure, CO2 is viewed as a waste item with no value, making it both expensive and achieving a linear economy. CO2 is a ubiquitous, inexpensive, renewable, energy-efficient, and nontoxic C-1 building block source that can be converted to a diverse range of chemicals and fuel.

**MoUs Inked**

- Mahanadi Coalfields Limited (MCL) on 25.10.2021
- Oges Solutions Pvt. Ltd. on 05.10.2021
- Aarogya AI on 01.10.2021
- Larsen & Toubro Limited on 14.10.2021
- Atomic Minerals Directorate for Exploration and Research (AMD) on 18.11.2021
- NTPC Limited on 18.12.2021
- Schneider Electric Systems India Private Limited – SEZ unit, Hyderabad on 08.12.2021
- Twinset Pvt. Ltd. and Samunnati Financial Intermediation & Services Pvt. Ltd. on 18.02.2022
- Jindal Stainless Limited on 18.02.2022
- Onca, Australia on 10.12.21 wherein IIT(ISM) will receive 40 licenses of the BlastiQ software suite
- Dicelytics on 23rd Nov, 2021 for creating a comprehensive platform for pursuing advanced research works.
- Dassault Systèmes and “The TEKWIN Foundation” the Technology Innovation Hub of IIT(ISM), have collaborated to set up Mining Technology Excellence Centre in India for Sustainable Mining.

DOI: https://doi.org/10.1039/D1GC04153C
28 Professors of IIT(ISM) Dhanbad made it to the top 2% of scientists in a survey conducted recently by Stanford University and published by Elsevier (Elsevier's Database, 2021)

- Prof. Ajay Mandal, Dept. of Petroleum Engineering
- Prof. Himanshu Gupta, Dept. of Management Studies
- Prof. Vineet Kumar Rai, Dept. of Physics
- Prof. Sagar Pal, Dept. of Chemistry
- Prof. Subodh Kumar Maiti, Dept. of Environ. Sci & Engg
- Prof. Suman Dutta, Dept. of Chemical Engineering
- Prof. Sarat Kumar Das, Dept. of Civil Engg
- Prof. S R Samaddar, Dept. of Environ. Sci & Engg
- Prof. Gurdeep Singh, Dept. of Environ. Sci & Engg
- Prof. P K Jana, Dept. of Computer Science & Engg
- Prof. G S Seth, Dept. of Maths. & Computing
- Prof. V Mukherjee, Dept. of Electrical Engineering
- Prof. R K Upadhyay, Dept. of Maths. & Computing
- Prof. Prashant Kumar Sharma, Dept. of Physics
- Prof. T Sengupta, Dept. of Mech. Engg
- Prof. Subrata Kumar Ghosh, Dept. of Mech. Engg
- Prof. Amit Rai Dixit, Dept. of Mech Engg
- Prof. Amarnath Chattopadhyay, Dept. of Maths. & Computing
- Prof. Raghvendra Kumar Chaudhary, Dept. of Electronics & Engg
- Prof. G P Biswas, Dept. of Computer Science & Engineering
- Prof. A Tarachand, Dept. of Computer Science & Engg
- Prof. S C Dutta, Dept. of Civil Engineering
- Prof. Sukanta Das, Dept. of Electrical Engineering
- Prof. S Raghunath brothers, Dept. of Computer Science & Engg
- Prof. Partha Sarathi Paul, Dept. of Mining Engineering
- Prof. Devi Prasad Mishra, Dept. of Mining Engineering
- Prof. U K Singh, Dept. of Mining Engineering
- Prof. A K Mishra, Dept. of Mining Engineering
- Professors of IIT(ISM) Dhanbad made it to the top 2% of scientists in a survey conducted recently by Stanford University and published by Elsevier (Elsevier's Database, 2021)

New Faculty Members

- **Prof. Sandipan Kumar Das**
  - Current Position: Professor
  - Department: Mech ENGG

- **Prof. Mohammad S Obaidat**
  - Current Position: Visiting Prof.
  - Department: CSE

- **Dr. Shipra Maurya**
  - Current Position: Visiting Asst. Prof.
  - Department: MS

- **Dr. Busigari Rajasekhar Reddy**
  - Current Position: Asst. Prof.
  - Department: FMME

- **Dr. Dushyant Sharma**
  - Current Position: Asst. Prof.
  - Department: EE

- **Dr. Kartikay Gupta**
  - Current Position: Professor
  - Department: Mech ENGG

- **Dr. Sayantan Ghosh**
  - Current Position: Assistant Professor
  - Department: PE

- **Dr. Dushyant Sharma**
  - Current Position: Assistant Professor
  - Department: EE

- **Dr. Sandip Mandal**
  - Current Position: Professor
  - Department: CSE

- **Dr. Anjali Mathur**
  - Current Position: Assistant Professor
  - Department: ME

- **Dr. Ayan Das**
  - Current Position: Assistant Professor
  - Department: CSE

- **Dr. Priyanka Devi Pantula**
  - Current Position: Assistant Professor
  - Department: CHEM ENGG

- **Dr. Bhawana Pandey**
  - Current Position: Assistant Professor
  - Department: ME
Our Twitter Family is now 11.8K+ Strong

Follow us 🦅
The book describes how spatial dynamics influence the dynamics of biological populations. These processes help us understand the outbreak of pandemics which allows us to design the control strategies from the public health care perspective.

The book introduces essential phenomena and existing modeling approaches in ecology, epidemiology, and neuroscience, providing examples of these models' pattern formation. The patterns analysis helps us understand the dynamics of underlying systems' macroscopic and microscopic behavior and traveling wave type patterns observed in dispersive systems. The book also touches on the concepts of virus dynamics and the study of Brain Dynamics, analyzing different types of models of infectious diseases.

The book presents recent improvements in peridynamic modeling of structures and provides sufficient theory and numerical implementation helpful to both new and existing researchers in the field. It offers the framework for modeling high stretch polymers, viscoelastic materials, thermoelasticity, plasticity, and creep, providing a systematic derivation for dimensionally reduced structures such as axisymmetric structures and beams. Also, it presents a novel approach to imposing boundary conditions without suffering from displacement kinks near the boundary.

Mr. V K ARORA (Batch of 1961) Mining Engineering launched his book, Tales of Us - Short Stories on Life, Relationships and Beyond. It is available now through Notion Press, Amazon, and Flipkart.

IN-NEWS: Director with ET NOW SWADESH

Prof. Rajiv Shekhar, Director, IIT (ISM) goes candid on:
- Jobs in IT sector
- The need for well-integrated use of technology resources by well-trained teachers
- Initiatives taken by the IIT(ISM)
**ALUMNI STARTUP**

**Dr. Pallav Sarma**

Tachyus’ Co-Founder and Chief Scientist and in-charge of the platform’s modeling and optimization technologies. With several patents and papers on areas such as modeling, optimization, data assimilation, and machine learning, he is a renowned expert in closed-loop reservoir management. Prior to joining Tachyus, he worked for Chevron and Schlumberger in the oil and gas industry, where he gained extensive research experience. He has won numerous accolades, including the INFORMS Prize, the INFORMS Dantzig Dissertation Award, Stanford University’s Miller and Ramey Fellowships, Chevron’s Excellence in Reservoir Management Award, and a SIAM award for research excellence.

He is an SPE Distinguished Lecturer and currently serves on the SPE Reservoir Simulation Conference committee, the EAGE European Conference on the Mathematics of Oil Recovery committee, and the JPT editorial committee.

Tachyus is one of the most well-known and disruptive firms focused solely on data science applications in the oil and gas industry. Tachyus (www.tachyus.com), which was founded in 2014, has developed a digital transformation platform for oil and gas operators that focuses on large-scale modeling and optimization using machine learning and reservoir physics. They are the creators of Data Physics, a novel modeling paradigm. Data Physics combines the latest advances in data science with the underlying physics found in reservoir simulators to create predictive models that solve many of the problems that traditional modeling approaches have. Many small and major operators and NOCs use the platform all across the world, from South America to the Middle East.

For many operators, the use of Tachyus technology has resulted in a large boost in production and a reduction in costs. Tachyus is well-positioned to play a crucial part in the oil and gas industry’s journey to a digital future.

Tachyus has now expanded its technology capabilities to include carbon emissions estimation, reporting, and forecasting, which is one of the main enablers required for the oil and gas industry’s next phase in its quest to reach net-zero carbon and methane emissions. Tachyus had received significant money from Founders Fund, a well-known Silicon Valley startup capital firm.

**FROM STUDENT CLUBS**

**The Literary and Debating Club**

IIT(ISM) Dhanbad presents

**POETRY SLAM**

**COMPETITION**

18th February 2022

Contact: Abhya Adri
6206684440
Kavisha Agrawal

**Prizes worth 6k!**

**In Performance: Poetry Slam**

The Literary and Debating Club organized SLAM POETRY 2022 in February. This online performance poetry event was a big hit among the students. The participants exhibited their poetic brilliance while juggling words.

The winners of this competition are: Pragyan Tripathi, Ananya Anandharaman, and Shrestha Mondal.

**Theatrical Thrills: "Til ka Taad", a radio play**

The aBhAy Dramatics Club performed a number of intriguing plays. The Club presented their first Virtual Radio Plays, "Making Room," by Michael Jessup, and "Til ka Tar," penned by Shri Shankar Shesh, a well-known Indian playwright. The performances of aBhAy Dramatics Club are a must-see.
**WEBINARS**

- “Groundwater Contamination and Modelling Approaches (GCMA-2021)” was organized by the Department of Mathematics and Computing on 23rd Dec 2021. **Prof. Vijay P Singh**, Texas A & M University, USA, Prof. T.E Eldho, IIT Bombay & Prof. Brijesh K Yadav, and IIT Roorkee delivered the talks.

- “Microwave Photonic products for Radar and EW Systems” was organized by OPTICA (Formerly OSA), IIT (ISM) Dhanbad Student Chapter on 22nd Dec 2021. **Mr. Krishna S. Kumar**, Managing Director, Light motif Systems delivered the talk.

- Dept. of Mining Engg., organized a two weeks Executive Development Programme on “Controlled Blasting Management for Road Construction in Mountainous Area” from 6th-18th Dec 21. The course was formulated on the request of BRO.

- “Imaging & Interrogating the Earth’s Subsurface” was organized on December 15-16, 2021 by the Dept of Applied Geophysics. **Prof. Andrew Curtis**, University of Edinburgh, U.K delivered the lectures.

- Evaluating the Role of Sedimentary Basin Geometry on Earthquake Ground Motions with Hybrid Earth Models” organized by the Dept. of Applied Geophysics on 11th Feb 2022. **Dr. Patricia Persaud**, Assistant Professor, Louisiana State University delivered the invited talk.

- “Recent Advances in Municipal Solid Waste Management” was organized by the Dept. of Environmental Science & Engineering. **Prof. Brajesh Kumar Dubey**, IIT Kharagpur delivered the talk.

- “Stress layering, fault slip, and hydraulic fracture propagation” was organized by the Dept: Applied Geophysics on 6th December 2021. **Dr. Ankush Singh**, Stanford University delivered the talk.

- "Challenges in Developing Technologies for Protecting Structures” was organized on 14th December 2021 by the Dept. of Civil Engineering. **Prof. Ted Krauthammer**, University of Florida, USA delivered the lecture.

- "Non-volatile memory for Extreme Environment” was organized in Dec 2021 by the Department of Electronics Engg.


- Dept of PE organized four lectures from February 26 to March 30, 2022, on “Insight into non-thermal to thermal EOR and Environmental Impact of Modern Petroleum & Chemical Industry.”
WEBINARS

- Dept. of Applied Geophysics organized a webinar on “Evaluating the Role of Sedimentary Basin Geometry on Earthquake Ground Motions with Hybrid Earth Models” in Feb 2022. The talk was delivered by Prof. Patricia Persaud, Louisiana State University.

SCLSG 2021-22

- Shastri Conference & Lecture Series Grant (SCLSG) 2021-2022 received by Dept of Petroleum Engg. Four lectures were organised under the lecture series during 26th February, 2022 to 30th March, 2022.

CYBER JAAGROOKTA DIWAS

- ‘Cyber Jaagrookta (Awareness) Diwas on Campus:
  With the growing number of internet users in India on social media platforms, rapidly emerging technologies, and the ensuing incidences of cybercrime, it was thought that there was a compelling need to improve cyber hygiene to prevent cybercrime by instilling habits of self-protection. IIT(ISM) observes ‘Cyber Jaagrookta (Awareness) Diwas’ on the first Wednesday of every month. Following lectures were organized to mark Cyber Jagrookta Diwas:
  - "Advanced Persistent Threats- Attribution & Detection (Part-1)"
  - "Blockchain– A modern Digital Infrastructure "
    Speaker: Shri Saurav Raj, Head, (Technology) at SettleFirst

Click Here for More

JOINT WEBINAR SERIES WITH QUALCOMM

- "Enabling the Rise of the Smartphone", 29 Jan, 2022 by Mr Souvik Basu, Staff Program Manager, Qualcomm.

RECORDINGS ARE AVAILABLE ON

@IITISMDhanbad

INTERNATIONAL WOMEN'S DAY (IWD) 2022

73RD REPUBLIC DAY CELEBRATION

VISIT OF SHRI HARIVANSH JI, DEPUTY CHAIRMAN, RAJYA SABHA

IIT(ISM) ACHIEVED A NEW HIGH IN PLACEMENT SEASON 2021-22!

Here is the coverage by Doordarshan!
On December 9, 2021, IIT (ISM) celebrated its 96th Birthday.

The 96th Foundation Day’s Chief Guest was Prof. Prem Vrat, Chairperson, Board of Governors, IIT(ISM), who delivered the Foundation Day Address titled “New Education Policy: Challenges and Opportunities for STEM Education.”

THE DAY’S HIGHLIGHTS:

- Honored professors & students for their research accomplishments.
- Recognized & lauded colleagues and staff for 25 years of service to IIT(ISM).
THE PLEASURE OF SPORT:
GENERAL SPORTS CHAMPIONSHIP

Unfurling the power within by practicing yoga.

75-days common yoga program kicked off
**ACTIVITIES BY NVCTI**

- Organised the **OpenVINO Toolkit pre-challenge** workshop to help students get ready to build their prototypes in Stage 4 for the Winter Challenge 1.0, using OpenVINO Toolkit.

**NVCTI**

**IN COLLABORATION WITH INTEL**

**PRE-CHALLENGE WORKSHOP FOR WINTER CHALLENGE 1.0 on OpenVINO Toolkit**

4 FEBRUARY

7:00 am to 8:30 pm

- Saswata Som & Shweta Kumari were declared the winners of **Piyush Dutta Innovation and Invention Prize 2021** for their proposed idea of making mine environments and equipment more accessible to students, freshers and laymen, letting us visualize our data in real space. Prize money of $1500 rupees was announced for the winners.

- Webinar on “**Peek into the future: Metaverse**” was delivered by Pushpak Kypuram, the founder-director of NextMeet, an immersive platform that enables real-time virtual conferencing and networking in an avatar-based 3D environment.

- **TALK SERIES** was organised on the five domains of Naresh Vashisht Tinkering and Innovation Laboratory (NVIL): Robotics and Automation Unit; Mechanical Tools and Rapid Prototyping Unit; Electronics Circuit and IOT Unit; Gaming and Animation Design Unit; and Pouch Battery Cell Assembly Unit.

**INNOVATION**

**ACTIVITIES UNDER ACIC**

The ACIC Office was inaugurated at the CRE Building on 25th March, 2022.

- A series of Capacity Building Programs were organised by ACIC.
  1. Capacity building programme on 23rd Nov, 2021. Mr. Sanjit Kumar Behera, Director, Practical Action Foundation, an Indian institution of global charity delivered the talk, wherein he discussed the characteristics, vision, and obstacles that entrepreneurs face.
  2. “**Power of Science and Innovation**” on 25th December 2021 for the school students of Dhanbad.

**Workshops organised by ACIC:**

- Two day workshop, in collaboration with Global Growth Foundation of India, “**Empowering Women Beyond Description**” on 09 Dec, 2021. Around 70 women participated in the training, wherein they were trained about food processing methods like preparing sauce, jam and pickle. Dr. Seema Singh, Scientist, Krishi Vigyan Kendra, Dhanbad trained the women.

- 2 days Workshop on “**Starting up your Entrepreneurial Journey**” on 21 September 2021 and 23 September 2021.

- Workshop on IP Awareness “**Demystifying Patents**” by Dr. Indira Banerjee, Senior Patent Attorney, P.S. Davar & Co. This Intellectual Property workshop helped the participants understand the need to know to protect their product or invention.

- Created a platform “**कला, जागृति एवं आत्मनिर्भरता**” to help the underprivileged women living in slums of Dhanbad sell their hand-crafted items.

- Organized a blood donation camp to help children suffering from Thalassemia.

The Jharkhand School Innovation Challenge (JH - SIC) 2022 is now underway.
Team CSM has initiated to provide offline classes, at the CSM office, for the children of 5-12 age group. A special effort has been made to teach the school dropout girls at Mandal Basti and Lahbani Basti.

Team CSM, in collaboration with Deepti Ladies Club (DLC) and Atal Community Innovation Centre (ACIC), distributed free meals (Lunch) & clothes to the residents of BagulaBasti & MalharBasti.

Skilling the villagers: Village women were trained to make paper bags and jewellery.

ADUZA ROBOTICS & AUTOMATION PVT. LTD

ADUZA Robotics & Automation Pvt. Ltd, an incubated company at the Centre for Innovation, Incubation, and Entrepreneurship (CIE), was launched in Nov 2021. Prof. Arun Dayal Udai, Director, and Prof. Zafar Alam, Assistant Professor, Dept. of Mechanical Engg, created the company. The company’s CTO is Mr. Ashish Siddharth, a research scholar. The Department of Promotion of Industry and Internal Trade (DPIIT) has designated ADUZA as a Technology Hardware start-up. Through the Government e-Marketplace, the company will deliver bespoke technology hardware in the fields of robotics and automation (GeM).

ACTIVITIES BY TEXMIN

- Dassault Systemes, in collaboration with TexMin, hosted a two-day virtual conference on “The Digital Path to Sustainable Mining.”

- A seminar on Implementation of Coal Mining Projects: Towards Atmanirbhar Bharat (ICMP 22) was organized by IIT(ISM) Alumni Association, CIL Innovation & Incubation Centre (CII Centre) & Texmin Foundation IIT(ISM).

- Guest lecture on Machine Learning – I by Prof. Dilip K. Prasad, Associate professor, Department of Computer Science, UiT The Arctic University of Norway.

The logo of Technology Innovation in Exploration & Mining (TEXMiN) Foundation [Indian Institute of Technology (Indian School of Mines), Dhanbad] represents a traditional excavator machine used in mining clubbed with automation for digital mine transformation achieving 3S Mining (Safe, Smart, and Sustainable Mining leading to Mining 4.0).
ACHIEVEMENTS & ACCOLADES

FACULTY MEMBERS

Prof. Saravanan Pichia has been a recipient of the Foreign Expert fellowship sponsored by the State of Administration for Foreign Expert Affairs, MOST of China under the flagship of High- end Foreign Expert Introduction Program, “One Belt One Road” Innovative Talent Exchange Foreign Expert Program, and “Foreign Young Talent Program 2021 for the cooperative project title “Catalytic conversion of NOx in the context of carbon neutrality” led by Prof. Dr. Chuanyi Wang, Academic Dean, School of Environmental Science and Engineering, Shaanxi University of Science & Technology Weiyang District, X’ian, Shaanxi, China.

Prof. R.K. Upadhyay has Guest Edited the Springer Journal Differential Equations and Dynamical Systems. The special issue was on “Nonlinear Models”.

Prof. Piyali Sengupta has been selected for the “Outstanding Woman Structural Engineer Awards 2021” by the Indian Association of Structural Engineers (IAnstructE).

Prof. Ajay Mandal has been listed in the top Engineering and Technology Scientists in India by https://research.com/. Prof. Mandal has H-Index of 40 and is ranked 43rd in India.

Dr. Gajendra K. Vishwakarma has received the P.V. Sukhatme Award from the Indian Society for Medical Statistics, India at the 39th Annual Conference of the Indian Society for Medical Statistics (ISMSCON-2021) held at RIMS Ranchi during December 09-11, 2021.

Prof. Raghvendra Kumar Chaudhary has been selected by the National Academy of Sciences, India (NASI) for the prestigious Young Scientist Platinum Jubilee Award for 2021 in recognition of his contributions to the design and development of metamaterial-based compact antennas, metasurface, and MIMO cognitive radio systems for mid-band 5G applications.

Prof. Shalivahan has assumed the position of Director of the Indian Institute of Petroleum and Energy (IIPE), Visakhapatnam, Andhra Pradesh. Hearty Congratulations!

India Science TV Channel has featured ROWS: Rapid Organic Waste Stabilizer, a patented technology invented by Prof. Sunil Kumar and his research Scholar, Mr. Nitin Kumar, Dept. of Environmental Science & Engineering, Indian Institute of Technology ISM Dhanbad.

WATCH THE VIDEO HERE
Prof. Raja V. Ramani, Batch of 1962, Mining Engineering, and Professor Emeritus has been selected to receive the highest honour of Distinguished Alumni Awards 2022 from Penn State University, the largest Alumni Association in the country, with more than 7,00,000 Penn State graduates. In 2021, he was inducted into the National Mining Hall of Fame in recognition of a lifelong commitment to education and research that has influenced a generation of mining industry leaders. Dr. Raja V. Ramani is currently Emeritus Professor of Mining and Geo-Environmental Engineering at The Pennsylvania State University and Emeritus George H. Jr., and Anne B. Deike Chair in Mining Engineering. Heartiest Congratulations!

Dr. Prakash Kumar, Batch of 1997, Department of Applied Geophysics has been awarded as a Fellow of The National Academy of Sciences.

Shri. Pankaj Kumar Satija, Batch of 1994, Mining Engg, has been appointed as the MD of Tata Steel Mining.

Dr. Ganesh C Thakur, Batch of 1970, Petroleum Engineering has been elected to the rank of National Academy of Inventors (NAI) Fellow.

Shri. Ram Baboo Prasad, Batch of 1987, Mining Engg. has been appointed the Director (Technical), CCL.

Prof. Pramod C Thakur, Batch of 1961, Mining Engineering has been inducted as West Virginia (WV) Coal Hall of Fame.

Mr. B P Singh, Batch of 1989, Mining Machinery Engg. has been appointed the Director in-charge of SAIL’s Burnpur and Durgapur Steel Plants.

Mr. Purushottam Kumar, Batch of 2010, Dept. of Computer Science, & Divisional Commercial Manager in Vadodara Railway Division has taken the initiative to adore Kosamba station in Gujarat with Madhubani Paintings. He also played a vital role in developing EKTANAGAR- First green station. No light and fan is needed during day time. This will be the first station to set up 51 electric vehicles charging station along with green cars and green buses. These vehicles will carry all tourists visiting Sardar Patel Statue of Unity, ensuring carbon-free green commutation around Statue.

Dr. Girija K Bharat, Batch of 1989, Dept. of Applied Chemistry, received the prestigious “STE Water Award-2021” in recognition of her research and capacity-building work in water resource policy. She also received the “Women Transforming India Award-2021” by the Women Entrepreneurship Platform of NITI Aayog, Government of India.

Mr. KAUSTUVA DIPTA PANY, Batch of 2012, Petroleum Engg. received the prestigious National Award for Outstanding Service at the 66th National Railway Award, 2021.
INDER MOHAN THAPAR AWARDS 2020

Ms. Pratishtha Gupta  
Dept of ESE  
Guide- Prof Vipin Kumar

Mr. Rohit Sharma  
Dept of PE  
Guide: Prof Vikas Mahato,

Ms. Arka Jyoti Das  
Dept of Mining Engg  
Guide: Prof P S Pal

Ms. Daisy Das  
Dept of FMME  
Guide: Prof B K Nandi

Ms. Mandira Majumder,  
Dept of Physics  
Guide: Prof R B Choudhary

Mr. Anukul Thakur  
Dept of Physics  
Guide: Prof R B Choudhary

Mr. Rakesh Kumar  
Dept of MME  
Guide- Prof V M S R Murthy, Dept of Mining Engineering & Prof L A Kumaraswamidhas, Dept of MME,

SHRI SHASHI SHANKER (PE, BATCH OF 1982) has been appointed as the Additional Director (NON-Executive, Independent) of Adani Gas on 04 May 2022. Shri Shanker served as the Chairman-cum-Managing Director of Oil and Natural Gas Corporation Limited (ONGC).

ECOLOGICAL RESTORATION OF SPOIL COAL MINES ON THE EARTH

Research findings of Prof. S K Maiti, Dept. of Environmental Science & Engineering has found sustainable methods of ecological restoration of spoil coal mines on the earth. He along with his research scholars have found that impoverished mine spoil can be easily nutrient enriched by initial seeding with grass-legume. The team has reviewed several research papers and has emphasized the importance of grass-legume seeding for reclamation of coal mine spoil in India and abroad.

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STUDENTS ACHIEVEMENTS

TEAM URJAFFINITY GOT FIRST PLACE IN INTERNATIONAL SWITCH ENERGY CASE COMPETITION

Ayush Kumar Jha
Dept of AGP

Anurag Bhattacharya
Dept of AGP

Apurv Shandilya
Dept of Petroleum Engg

Umang Tulsan
Dept of Petroleum Engg

TEAM CARBON 6 MADE IT TO RUNNERS UP IN KPMG IDEATION CHALLENGE 2022

Anurag Bhattacharya
Dept of AGP

Ayush Kumar Jha
Dept of AGP

BS Meghma
Dept of Petroleum Engg

Hritwik Ranjan
Dept of Petroleum Engg

Ayush Tripathi
Dept of M&C

Ayush Sharma
Dept of Mechanical Engg

Ms. Arya Razdan, (Batch of 2022) Department of Petroleum Engineering made it to the Economic Time’s Campus Star class of 2021.

Mr. Md. Ameen, Research Scholar, Dept. of Electronics Engg (Guide- Prof Raghvendra Chaudhary) has been selected for the YOUNG SCIENTIST AWARD from URSI combined Atlantic / Asia-Pacific Radio Science Conference (URSI AT-AP-RASC 2022) to be held in Gran Canaria, Spain from 29th May to 3rd June 2022.

ON CAMPUS: WELCOMING THE INTERNATIONAL STUDENTS
OBITUARY

YOUR MEMORIES LIVE IN OUR HEARTS
WE MISS YOU ALL DEARLY

OUR BELOVED ALUMNI & EMPLOYEES WHO LEFT FOR THEIR HEAVENLY ABODE

- Shri Kanai Lal Bose, Batch of 1953, Mining Engg.
- Shri Hironmoy Niyogi, Batch of 1948, Mining Engg.
- Shri Dilip Dubey, Lab Attendant, Dept. of Electronics Engg. left us on 10th Jan 2022.

- Prof. Kaustubh Anand Pant, Batch of 1960, Mining Engg. left for heavenly abode on 11th Dec, 2021.
- Shri Chandar Prasad Saha, Batch of 1964 Petroleum Engg, left us on 15th Jan 2022.
- Shri Shimbhu Singh Jadaun, Batch of 2020, Petroleum Engg, left us on 9th April, 2022.
- Shri Himangshu Kumar Dey, Batch of 1960, Mining Engg. passed away on 11th April 2022.
- Prof. Mohd. Ashraf Rizvi left for heavenly abode on 8th May 2022.

Prof. Chandan Bhar left for his heavenly abode on 1st Feb, 2022.
He had a distinguished career as a faculty in the Department of Management Studies.

Prof. Dipak Guha left for his heavenly peace on 4th Jan, 2022.
He had a distinguished career as a faculty in the Department of Chemistry.

Prof. P C Pal left us for his heavenly abode on 1st April, 2022 in Kolkata.
He contributed immensely to the Dept. of Mathematics & Computing.
BLOOD DONATION CAMP WITH DEEPTI LADIES CLUB ON OCCASION OF INTERNATIONAL WOMEN’S DAY 2022

IIT(ISM) students organized a blood donation camp at Dhanbad to help children suffering from Thalassemia.

In collaboration with Fast Forward India, students and personnel of IIT(ISM) Dhanbad donated 417 units of blood on February 27, 2022. It was a huge comfort for the Thalassemia-affected children in Dhanbad.
Dassault partners with IIT (ISM) Dhanbad

Kolkata, Dec 29 (PTI) French software giant Dassault Systemes has partnered with the TEXMIN (Technology Innovation in Exploration & Mining) Foundation at the Texmin (Technology Innovation in Exploration & Mining) Foundation at the IIT(ISM) Dhanbad to set up a world class Centre of Excellence in India which will provide radical technology support and prepare workforce of the future, specific to the mining and allied industries, a ISM statement said on Wednesday.

As technology and solution partner, Dassault Systemes will provide experiential through its 3D experience platform to support the industrial and startup vertical for optimisation, it said. This will range from process optimisation, it said. This will range from process optimisation, it said. This will range from process optimisation, it said. This will range from process optimisation, it said. This will range from process optimisation, it said. This will range from process optimisation, it said. This will range from process optimisation, it said. This will range from process optimisation, it said. This will range from process optimisation, it said. This will range from process optimisation.