



Prof. Uday Annapure
Director, ICT Jalna



Streamlining minds मार्गजल

Volume 3 | Issue 2 | January-April 2021

Academic Year 2020-21

MARJ Newsletter



Prof. Aniruddha Padit
Vice Chancellor, ICT



▲ Photos Taken After Having a Candid Discussion with new Director, Prof Uday Annapure, on ICT MARJ, its journey so far and future expedition.

Contents

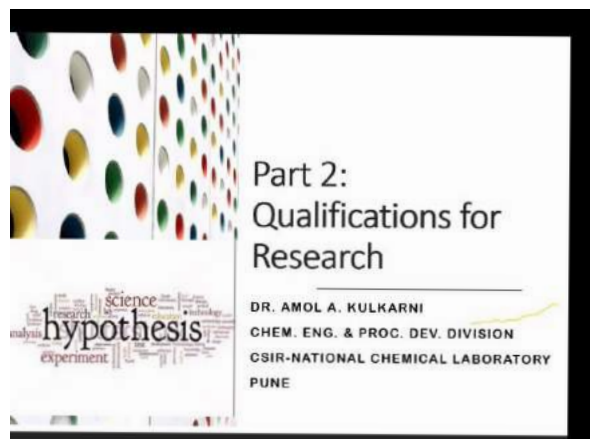
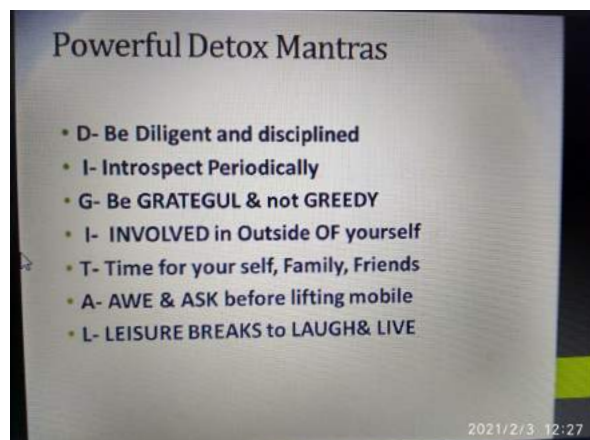
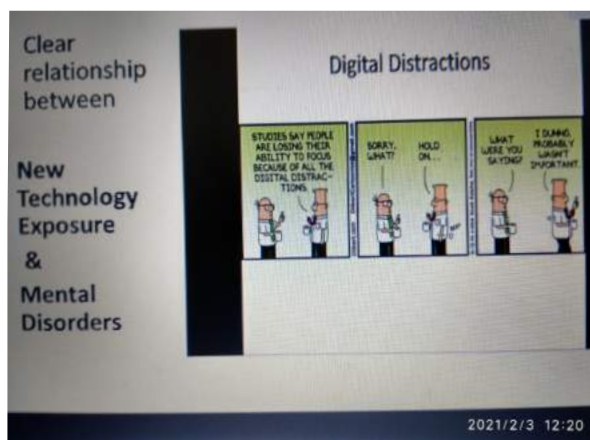
- 05 A Three-Day Online Induction Program (February 2-4, 2021)
- 06 Faculty Recruitment
- 08 IPT
- 09 Publications
- 10 Extension Activities
- 13 Student Corner
- 16 Campus Development Activity

Editor: Dr. Kapil Sagrolkar





Induction Programme





Sanguine Word from MARJ Director



we have started new endeavour of weekly lecture series named "Colloquy". Various stalwarts from around the world and from different fields of knowledge, share their views with the diverse and knowledgeable audience which comprise of students, academicians, industrialists and other interested ones. This lecture series can be attended by all the interested ones.



Dear all,

After taking over the Directorship of ICT MARJ I "stood ajar and ready to welcome the ecstatic experience" (Emily Dickinson). Let me share with you the little four month experience of mine as as Director of this Institute with you.

This is my first ever appearance to have a word with you through ICT MARJ Newsletter- Margjal: Streamlining Minds.

Let me brief you about what we did in this period of four months. We conducted Induction Program for the newly admitted i-M. Tech students.

This trimester onwards we have made change in examination pattern. Now we have adopted to 50-50 examination pattern. That is to say, this trimester onwards internal assessment and external examination i.e. Trimester end examination will have equal weightage. Prior to this trimester, we used to assess the academic progress of the students based on the criteria- 70% weightage to the internal assessment and 30% to the final or Trimester end exam. The new pattern has proven to be very effective, and I am sure it will increase student efficacy.

Besides this, i-M. Tech students were placed for a 4-month industrial training in different companies. After the resurgence of Covid 19 virus as Second Wave, they were immediately called back to their respective homes and remaining part of the IPT was done from home. Similarly, their IPT presentation was also conducted online.

Despite being pretty new campus, I am glad to see MARJ faculties put efforts to get projects, grants and international publications. I would like to extend my acknowledgment to them for their publication at journals of international repute. I also would like to acknowledge Dr. Debashis Kundu's efforts to grab the research grant for his project from

National Supercomputing Mission R&D-HPC Applications [Department of Science and Technology (DST). Last but not the least, I would like to acknowledge Dr. Manoj Gawande who has been invited to join Visiting Professor position in Chemistry at RCPTM-CATRIN, Palacky University, Olomouc, Czech Republic.

Not just faculty but the young minds of our institute make every effort to shine nationally. Proactive students of MARJ campus run Student Clubs; publish articles; participate in (inter)national conferences; and win at the Tech Fest. I feel proud to have such industrious, smart and proactive students. I am sure they will shine in every field they embark on.

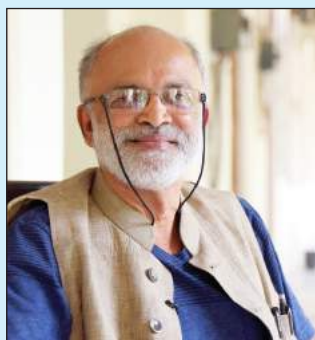
We hold Faculty Meet every Friday and, in addition to that, we have also started new endeavour of weekly lecture series named "Colloquy". Various stalwarts from around the world and from different fields of knowledge, share their views with the diverse and knowledgeable audience which comprise of students, academicians, industrialists and other interested ones. This lecture series can be attended by all the interested ones. Hence, I urge everyone to be a part of this venture at 4.00 pm every Saturday.

I am glad to inform you that ICT MARJ welcomes seven newly recruited faculty members. This addition has enriched our teaching strength. Welcome aboard, guys!

Towards the end, I would like to reveal one truth that I am enjoying this new responsibility of ICT MARJ Directorship. I am sure I will take this institution to new heights. For this I urge everyone to be with me to make this possible.

Prof. Uday S. Annapure
Director

Encouragement from the Vice Chancellor



I would like to record my sincere thanks and appreciation to Professor Dr. Smita S. Lele for her stellar performance since the beginning and would like to welcome Professor Uday S. Annapure, who has agreed to step into her shoes.



Dear ICT Marj Family, Faculty-Staff and Students,

At the onset, my compliments to you all for admirably surviving yet another period of the pandemic & not letting it affect your spirit & motivation.

Under the quiet and efficient, and yet unassuming leadership of Prof. Uday Annapure, I can see a slow and steady change for good, of course, taking place- be it attitude, approach and resolve to achieve some specific targets.

I am happy to inform you, especially the student community, that from this year onwards ICT MARJ and ICT- IOC Bhubaneswar campus students will be considered on equal terms for their eligibility of Merit Cum means scholarship to be distributed annually.

Online teaching has become a norm for both these campuses, and the young faculty has taken it as fish to water. The pep talks and extracurricular activities conducted in a virtual mode at ICT-MARJ are keeping students well engaged.

Also, a momentous decision to interchange the 9th and 10th trimester and postpone the industrial internship, and advance the subsequent trimester has minimized the impact of pandemic on the academic calendar. My sincere thanks to all the old and newly recruited faculty for assisting us in this exchange being performed smoothly. The addition of two years M.Tech. Students will significantly enhance the research output from the faculty, supplemented by finalizing the high-end analytical and research instruments which are under the process of procurement.

From the first week of June, a complete 3D contour mapping of the allotted land will be carried out to prepare a master plan for the new campus to be made ready in the next couple of years. The continuous assistance and an accommodating attitude of Govt. of Maharashtra is gratefully acknowledged and we all should keep it in mind that ICT-MARJ, Marathwada Campus, is being looked upon as a trendsetter for the Marathwada region by the Govt. of Maharashtra. Hence, it is an added responsibility on all of us to demonstrate our capability and competence and I am positive that all of you will come out with flying colours.

A specific request to the parents of all the students, "please feel free to offer your opinion and suggestions that can further improve the performance of ICT- MARJ and your ward.

Wishing you all the very best and requesting you all to be extra careful and stay safe. Let us celebrate yet another successful period.

Prof. Aniruddha B Pandit
Vice Chancellor, Institute of Chemical Technology

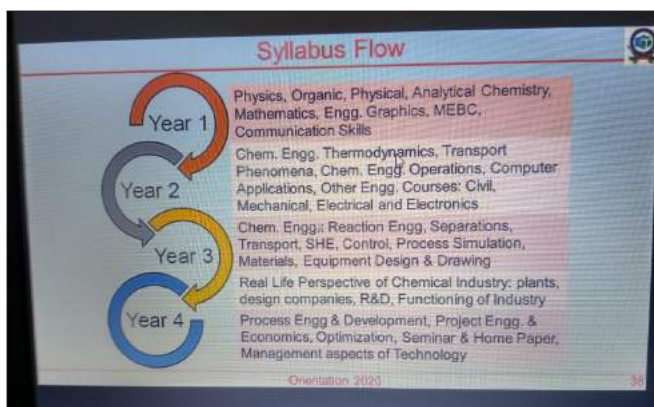
Academic Endeavour

A Three-Day Online Induction Program (February 2-4, 2021)

ICT MARJ conducted a three day online program for the newly admitted i-M. Tech batch of 2020-2021. The program started with ICT ritual of Vidyapeeth Geet and a welcome address by the honourable Vice Chancellor Prof. Anirudh B. Pandit. ICT MARJ Director Prof. Uday S. Ananpure discussed the ICT MARJ “vision-Mission” in his welcome address. Prof. R. R. Deshmukh, Registrar, Prof. S. S. Bhagwat, Dean Academic Program, and Prof. V. D. Deshpande,

Planning”. The Induction also included numerous expert talks from the stalwarts of different fields of studies. The experts like ICT Alumni Dr Amol Kulkarni, Research Scientist – NCL Pune and Dr Sandip K Pawar, AdiChem Technologies, Nashik; Dr Yogesh Dashrathe, Chairman - Nova Industries, Aurangabad; and Dr Anand Patil, Senior Medical Officer, R & D Division, Noor Medical College, Badnapur, Jalna.

Heads of Department of Chemical Engineering (Minor), and Basic Science, ICT Mumbai campus, interacted with the new entrants and introduced their respective departments, faculty



Controller of Examination, ICT Mumbai, interacted with the new entrants. Deputy Director of ICT MARJ Dr. Parag Nemade introduced the newly admitted students to the ICT Jalna Campus, its infrastructure, hostels, labs, course structure, and different committees functioning at MARJ.

Former Director of ICT MARJ Prof. S. S. Lele, Professor Emeritus of MARJ campus, gave a lecture on “Appropriate Career Selection and

members, research, labs, etc. to them. All the faculty members of ICT MARJ introduced themselves along with their research interests and subject they teach.

Dr. Sandip P. Bhairat and Dr. Manoj Jadhao were the overall coordinators of the Program. Dr. Ritika Joshi, Dr. Kapil Sagrolikar and Dr. Hitendra Patil were the compere of each day, respectively. Dr. Girish Joshi proposed vote of thanks.

Faculty Recruitment**Dr. Navnath Hanavte**

Subjects taught:
Pharmaceutical Organic Chemistry, Pharmaceutical Inorganic Chemistry, Medicinal Chemistry, and Industrial Pharmacy.

Research interests: Drug Design and Development, Development of Novel Methodologies for the synthesis of APIs and It's Intermediates, Process Chemistry.

Total Research Publications: International: 11, H-Index: 05, Citations: 30+

**Dr. Sandhya Shewale**

Subjects taught: Fruits and Vegetable Technology, Advanced Drying Technologies, Food Chemistry, Unit Operations in Food Engineering, and

Introduction to Food Technology.

Research interests: Electromagnetic Radiation Based Processing of Foods, Low Humidity Air Drying, Innovative Combinational Drying Technologies, Minimal Processing of Foods, Light-Based Processing, Non-Thermal Processing of Foods.

Total Research Publications: International: 7, H-Index: 4, Citations: 53

National and International Awards:

- AWSAR Award for Popular Science Story under Ph.D. Category by Department of Science and Technology, Government of India, 2020;
- DST-INSPIRE Fellowship for Doctoral Research by Department of Science and Technology, Government of India, 2015;
- Junior Research Fellowship for Post-Graduation Studies by Indian Council of Agriculture Research, 2011;
- Awarded University Gold Medal by VNMKV formerly known as Marathwada Agricultural University, Parbhani, Maharashtra, 2012.

**Dr. Sameena Malik**

Subject Taught: Process Equipment Design I & II, Chemical Technology, Process Economics & Plant Design

Research interests:

Advanced Oxidation Process, Wastewater Treatment, Solid Waste Management, Biofuels, Nanotechnology, Nanocatalysis.

Recognized Research Guide for: Ph.D. (Tech) in Chemical Engg., Environmental Engg.

Guided Students: Masters: 01

Total Research Publications: International: 14, H-Index; 10, Citations: 256+

National and International Awards:

- Prime Minister's Doctoral Fellowship, 2015
- Visiting Research Scholar at Windsor University, Canada, 2018

**Dr. Yogesh Gat**

Teaching Experience: More than 6 years of teaching and research experience from Lovely Professional University, Jalandhar (Punjab).

Industrial Experience: Mondelez International

Professional Memberships: Life member, Association of Food Scientist and Technologist India. Life member, Indian Science Congress Association.

Subjects taught: Advances in Food Engineering, Food Processing and Preservation, Novel Techniques in Food Packaging, Computer Applications in Food Industry.

Research interests: Extrusion Processing, Nutraceuticals and Functional Foods, Waste Valorisation, Value Addition, Traditional Foods, New Product Development.

Guided Students: M. Sc/M. Tech: 05 (completed); 3 (ongoing); Ph. D (Part time): 01 (ongoing)

Total Research Publications: National: 05, International: 48, Citations: 960+, H-Index: 17



i10-index: 25, Patents Filled: 01

Industrial Consultancy Project: 01

National and International Awards:

- Young Research Award-2017 conferred by LPU;
- Research Appreciation Award-2018 conferred by LPU;
- Research Excellence Award-2019 conferred by LPU;
- High Impact Teaching Award-2017 conferred by Dale Carnegie Associates;
- High Impact Article-2018 conferred by Industrial Biotechnology Journal;
- Best Poster Presentation Award in International Conference (IFCON-2013) conferred by CSIR-CFTRI.



Dr. Viney Ghai

Subjects taught: Energy Engineering

Research interests: Nanomaterials, Graphene, Carbon Nanotubes, MXenes, Nanofabrication,

Energy storage materials

Total Research Publications:

National: 01, International: 14, Patents: 03

H-Index: 5, Citations: 54

National and International Awards:

- Young Researcher Award, VIT Vellore;
- Selected for "Global Young Scientists Summit" by National Research Foundation, Prime Minister's office, Singapore;
- Awarded "Energy + Water Nexus Fellowship" by University of New South Wales, Australia;
- Awarded "Director's Fellowship" at Indian Institute of Technology Ropar.



Dr. Srimanta Maji

Subjects taught: Ordinary Differential Equations, Partial Differential Equations, Numerical Methods. Scientific

Computational Tools Lab- C/C++, Python

Research interests: Numerical Simulation of Boundary Layer Flow for Nanofluids, Computational Fluid Dynamics, Finite Volume Method, Stirred Tank Simulation using Various Turbulence Models.

Total Research Publications: International: 03



Dr. Sunny Kumar

Subjects taught: Chemical Process Technology, Process Modelling and Simulation, Transport Phenomena, Fluid Mechanics, Nanotechnology

Research interests: Micro/Nanorobotics, Microfluidics, Advanced materials (Graphene), Biopolymer, Environmental and Energy.

Total Research Publications: International: 10, Patents filled: 02

H-Index: 4, Citations: 70, i10-index: 2

National and International Awards:

- Associate member of Royal Society of Chemistry (RSC), United Kingdom;
- Travel grant from DST SERB and RSC;
- Invited talk in the various institute such as BIET Jhansi, and MANIT Bhopal;
- Working experience as Assistant professor (Temporary) in MANIT Bhopal, and NIT Arunachal Pradesh.
- Attended 25 conferences and 10 workshops, two-year work experience as microRaman operator.

**IPT**

I-M. Tech students of ICT-Marathawada, Jalna Campus were placed for 4-month industrial training in different companies. The companies are as follows:

Sn	Industrial Units For Placement of IPT Students of ICT Jalna	Address
1	Vinodrai Engineering Pvt Ltd	Dawalwadi, Aurangabad Road Jalna
2	Rajuri Steels Group	Phase II Addl MIDC, Jalna
3	Metarolls Steels Group	Phase II Addl MIDC, Jalna
4	Approcopp Engineering Pvt Ltd	Phase II Addl MIDC, Jalna
5	Polaad Steels Group	Phase II Addl MIDC, Jalna
6	Approcool Aircon Pvt Ltd	Phase III Addl MIDC, Jalna
7	Smoothline Cable Industries	Phase II Addl MIDC, Jalna
8	Gauri Agro Tech Industries Pvt Ltd	Gundewadi, Bhokardan Road Jalna
9	Bhakti Solvent Extractions Pvt Ltd	Phase II Addl MIDC, Jalna
10	Divya SRJ SRJ Foods LLP	Mantha Road, Jalna
11	Tanmay Polyfilms Pvt Ltd	Devmurti, Sindkhed Road, Jalna
12	Roopam Steels Group	Phase II Addl MIDC, Jalna
13	SSD Refineries Pvt Ltd	Daregaon, Jalna
14	Laxmi Cotspin Ltd	Samangaon, Ambad Road Jalna
15	Shree Tubes Pvt Ltd	Waluj Aurangabad
16	Metalman Industries Pvt Ltd	Waluj Aurangabad.
17	Garware Polyesters Ltd	Waluj Aurangabad
18	Sanjay Techno Pvt Ltd	Waluj Aurangabad
19	Ajanta Pharma Ltd	Waluj Aurangabad
20	Mylan Pharmaceuticals Ltd	Waluj Aurangabad
21	Wockhardt Pharmaceuticals Ltd	Shendra Aurangabad
22	Concept Pharmaceuticals Pvt Ltd	Chikalthana Aurangabad
23	Glenmark Pharmaceuticals Ltd	Ambad, Nasik
24	Tata Motors Ltd	Dharwad
25	RCF Ltd	Chembur Mumbai
26	HPCL Ltd	Chembur Mumbai
27	Mehta Pharmaceuticals Pvt Ltd	Mumbai
28	Century Rayon Ltd	Kalyan Mumbai
29	Envirocare Lab Pvt Ltd	Thane Mumbai
30	Godrej Industries Ltd	Valiya Gujrat
31	Vibfast Pigments & Dyes P Ltd	Ahemedabad
32	Monk Foods	Indore
33	SASMIRA	Worli Mumbai
34	Haffkine Bio-Pharmaceuticals Ltd	Mumbai
35	Bengal Surgicals Ltd	Kalyani, Kolkata
36	Kalash Seeds Pvt Ltd	Mantha Road Jalna
37	Abhay Proteins Pvt Ltd	Jalgaon Road Jalna
38	Smoothline Cables	MIDC Jalna



Sn	Industrial Units For Placement of IPT Students of ICT Jalna	Address
39	Exotic Fruits Pvt Ltd	Krishnagiri Tamilnadu
40	AU Valves Pvt Ltd	Chennai Tamilnadu
41	Thakurji Solvex Pvt Ltd	Sindkhed Road Jalna
42	Sangwong Chemicals Pvt Ltd	Ankaleshwar Gujarat
43	Shreya Pharamaceuticals Pvt Ltd	Waluj Aurangabad
44	PG Asian Paints Ltd	Navi Mumbai
45	Akzo Nobel Industries	Navi Mumbai
46	Trilok Foods	Satara
47	Suhana Masale	Pune

Publications

Dr. Girish Joshi

1. Nanodielectric Thermoplastics for Domestic and Industrial Applications: A Recent Progress.
2. Nano Material, Modern Plastics India, 2021, 22, 02.

Web: <https://www.readwhere.com/read/3045506#dual/68/1>

Dr. Manoj B. Gawande

1. Single-Atom Catalysts. *Advanced Material Interfaces*, 2021, 2100436. "Guest Editorial"
2. N-Doped Carbon Materials: Synthesis and Sustainable Applications, Virtual Special Issue (VSI). *ACS Sustainable Chemistry & Engineering*, 2021, 9, 11, 3975–3976. "Editorial"
3. Single Co-Atoms as Electrocatalysts for Efficient Hydrazine Oxidation Reaction. *Small*, 2021, 2006477. "Invited Manuscript"
4. Carbon Nitride-based Ruthenium Single-Atom Photocatalyst for CO₂ Reduction to Methanol. *Small*, 2021, 2006478. "Invited Manuscript"
5. Efficient and Sustainable Co₃O₄ Nanocages Based Nickel Catalyst: A Suitable Platform

for the Synthesis of Quinoxaline Derivatives. *Molecular Catalysis*, 2021, 504, 111454.

6. The Hallmarks of Copper Single-Atom Catalysts in Direct Alcohol Fuel Cells and Electrochemical CO₂ Fixation. *Advanced Material Interfaces*, 2021, 2001822.
7. Single-Atom Catalysts. *Small*, 2021, 17, 2101584. "Guest Editorial"
8. AgNWs-a-TiO_x: A Scalable Wire Bar Coated Core-Shell Nanocomposite as Transparent Thin Film Electrode for Flexible Electronics Applications. *Journal of Materials Science: Materials in Electronics volume*, 2021, 32, 6454–6464.
9. Studies on Individual Pyrolysis and Co-pyrolysis of Corn Cob and Polyethylene: Thermal Degradation Behavior, Possible Synergism, Kinetics, and Thermodynamic Analysis. *Science of The Total Environment*, 2021, 147004.
10. Syntheses of N-Doped Carbon Quantum Dots (NCQDs) from Bioderived Precursors: A Timely Update. *ACS Sustainable Chemistry & Engineering*, 2021, 9, 1, 3–49. Cover image selected as "Front Cover Image" in VSI.

Dr. Debashis Kundu

1. Ionic Liquid Promoted Dehydrogenation of Amine Boranes: A Review.

Aman N. Patni, Ameya S. Mantri, Debashis Kundu.

International Journal of Hydrogen Energy, 2021, 46 (21), 11761-11781.

Dr. Saurav Raj

1. Modified Branch-and-Bound Algorithm for Unravelling Optimal PMU Placement Problem for Power Grid Observability: A Comparative Analysis.

CAAI Transactions on Intelligence Technology, 2021, 1-21.

2. Implementation and Optimal Sizing of TCSC for the Solution of Reactive Power Planning Problem Using Quasi-Optpositional Salp Swarm Algorithm.

International Journal of Energy Optimization and Engineering (IJE OE), 2021, 10(2), 74-103.

3. Impacts of Computational Techniques for Wireless Sensor Networks.

Nature-Inspired Computing for Smart Application Design, 2021, 87-104.

Dr. Joyita Sarkar

1. Polymeric Bioinks for 3D Hepatic Printing. *Chemistry, 2021, 3(1), 164-181.*

2. The Evolving Role of Nanoparticles in Bacteria Mediated Cancer Therapy, *Swapnil C Kamble, Farhan A Sheikh, Joyita Sarkar. Nanotechnology for Advances in Medical Microbiology, (In: Maddela N.R., Chakraborty S., Prasad R. (Eds)), Springer, Singapore. 2021, 331-347.*

Research Grant

Dr. Debashis Kundu received a research grant for his project titled “Multiscale Modeling of



Deep Eutectic Solvent Promoted Enhanced Oil Recovery” from National Supercomputing Mission R&D-HPC_ Applications [Department of Science and

Technology (DST) in collaboration with the Ministry of Electronics and Information Technology (MeITy)]. He is the principal investigator and this project is in collaboration with IIT Patna for a period of two years. He received Rs. 34.52 Lakhs for this project.

Extension Activities

Dr. Girish Joshi

1. He attended the **Board of Studies meeting** for the First Year Engineering Program (Basic Science and Humanities). It was held on 20 January 2021 at NMIMS, Vile Parle (W), Mumbai.
2. He delivered a talk on the topic “**Recent Developments of polymer composites for high performance Electrical and Electronic Applications**” on 11 February 2021. It was a TEQIP Sponsored conference organized by Department of Electrical Engineering, BMS College of Engineering, Bengaluru.
3. He delivered a talk on “**Present Scenario of science and Technology**” on 27 February 2021. It was organized on the occasion of National Science Day by Science Club SICES Degree college of Arts, science and commerce, Ambarnath (W.). He received good response from the audience and also a letter of appreciation by the organizer.
4. On the occasion of National Science Day on 28 February 2021 Dr. Joshi gave a



talk on “Present Scenario of science and Technology”. It was organized by Remote sensing club, PES, Resayani, Panvel District (Raigad).

5. He also delivered a talk “Issues of Time Dependent Properties of Polymeric Materials for High Performance Applications” on 12 March 2021.
6. Dr. Girish Joshi delivered the International seminar hosted by Prof. Teresa Cuberes, University of Castilla-Mancha, Spain on 12 March 2021. He covered the topic of **various applications and principles of technological important issues of time dependent polymeric materials**. It was a part of ongoing research collaboration between ICT and UCLM. He received an appreciation letter from the organizer and future invitation to visit the UCLM for mutual interest work.
7. He gave a talk entitled “Science and Technology of high performance Materials” on 14 March 2021 which was organized by Department of Physics, Smt. Narsamma ACS College, Kiran Nagar, Amravati.



8. Dr. Joshi was one of the resource persons at the e-meeting program under the **Stephen Hawkins Lecture Series, the Third Flower**. It was organized by department of Physics, SGBAU, Amravati.
9. Dr. Joshi delivered a seminar entitled “**Issues of Time-Dependent Polymer Composites for High Performance Applications**” at Mining and Industrial Engineering School of Almadén, UCLM, Spain on 12 April 2021.

Dr. Manoj B. Gawande



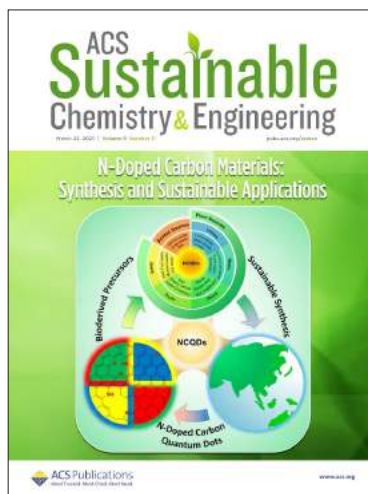
He delivered an invited talk on “**Research Grant – Opportunities**” in India and abroad for project funding at Wilson College, Mumbai on 28 April 2021. His talk included different types of research grants and funding agencies available at international level. Then he moved to discuss, on the one hand, national level funding agencies such as CSIR, SERB, INSA, DRDO, DSIR, and, on the other hand, state-level funding agencies like a ministry of education i.e., MHRD. He urged the institute to promote their faculty to go for applied-oriented research. Towards the end, he emphasized on the current opportunities under the scheme “Atmanirbhar Bharat” which helps to make India self-reliant. He concluded his talk by discussing how to write a relevant and feasible research proposal to acquire the fund.



Achievements

Dr. Manoj B. Gawande

1. Dr. Gawande has been invited to join **Visiting Professor position in Chemistry at RCPTM-CATRIN, Palacky University, Olomouc, Czech Republic**. This post will help boost collaboration between Palacky University, Czech Republic, and ICT, MARJ. We congratulate Dr. Gawande on this feat.
2. Dr. Gawande along with Prof. Audrey Moores, and Prof. Rajender S. Varma recently edited a **Virtual Special Issue of ACS Sustainable**



Chemistry & Engineering entitled “N-Doped Carbon Materials Synthesis and Sustainable Applications”. This VSI emphasises on the recent advances and

discoveries in the field and covers a broad range of topics from

advanced catalysis, electro- and photoelectrocatalysis for energy applications to Zn–air batteries, and sustainable organic transformations. Also, cover image of review entitled “Syntheses of N-Doped Carbon Quantum Dots (NCQDs) from Bioderived Precursors: A Timely Update” published in VSI, selected as “Front Cover Image”.

3. Dr. Gawande along with Prof. Ariga and Prof. Yamauchi edited a special issue entitled “Single-Atom Catalysts” of Small (IF: 11.45) and Advanced Material Interfaces (IF:4.94) journals, Wiley Publications. Single-atom catalysis, which involves isolated metal atoms stabilized on suitable carriers/ supports, is one of the most recent, revolutionary and rapidly expanding research fields in catalysts science. This issue emphasises on the latest advances in the applications of transition metal-based SACs for organic catalysis, photocatalysis, electrocatalysis, and biocatalysis.

Student Corner

Publications

1. **Rahul Gaikwad** (TARA/PhD student) published a review paper titled “Single-Atom Catalysts – A Sustainable Pathway for the Advanced Catalytic Applications” in the journal **Small (IF: 11.45)**. Please visit the link for access the full paper: <https://onlinelibrary.wiley.com/doi/10.1002/sml.202006473>
2. **Krutarth Pandit and Parth**

Khandagale (2nd Year I-M. Tech student) published an article titled “**Overview and Advances in Wastewater Treatment Plant with focus on Pharmaceutical Industry wastewaters**” under the guidance of Prof. A. B. Pandit and Prof. Parag Gogate.

It was published by Indian Chemical Council.

3. **Smith V Patil** (2nd Year I-M. Tech student) published a paper titled



“Polymer Nano Blends for food packaging application” under the guidance of Dr. Girish Joshi.

It was published by Modern Plastics India. Please visit the link for access the full paper: <http://digital.emeraldgroupe.com/m5/3045506/Modern-Plastics-India/Vol-22-%7C-Issue-02-%7C-March-2021-%7C-Mumbai#page/70/1>

4. **Atharva V. Jahagirdar** (2nd Year I-M. Tech student) published an article titled “Recycled Nanomaterials and its impact on environmental issues” under the guidance of Dr. Girish Joshi.

It was published by Modern Plastics India. Please visit the link for access the full paper: <http://digital.emeraldgroupe.com/m5/3045506/Modern-Plastics-India/Vol-22-%7C-Issue-02-%7C-March-2021-%7C-Mumbai#page/68/1>

5. **Vedant A. Joshi** (2nd Year I-M. Tech student) published an article titled “COVID-19 Plastic Waste Generation and Management” under the guidance of Dr. Girish Joshi.

It was published by Modern Plastics India. Please visit the link for access the full paper: <http://digital.emeraldgroupe.com/m5/3045506/Modern-Plastics-India/Vol-22-%7C-Issue-02-%7C-March-2021-%7C-Mumbai#page/80/1>

6. **Farhan F Shaikh** (2nd Year I-M. Tech student) published an article titled “The Evolving Role of Nanoparticles in Bacteria Mediated Cancer Therapy, Nanotechnology for Advances in Medical Microbiology” under the guidance of Dr. Joyita Sarkar.

It was published by Springer Nature Singapore Pte Ltd.

Please visit the link for access the full paper: <https://www.springer.com/gp/book/9789811599156>

7. **Aman N. Patni and Ameya S. Mantri** (2nd Year I-M. Tech student) published

an article titled “Ionic liquid promoted dehydrogenation of amine boranes: A review” under the guidance of Dr. Debashis Kundu.

It was published by International Journal of Hydrogen Energy.

Please visit the link for access the full paper: <https://www.sciencedirect.com/science/article/abs/pii/S0360319921000902?dgcid=author>

8. **Vedant A. Joshi** (2nd Year I-M. Tech student) was involved in research project titled “Multiscale Modelling of Ionic Liquid Assisted Enhanced Oil Recovery Process” under the guidance of Dr. Debashis Kundu.

It was under Bombay Technologist Undergraduate Research Program. The duration was January 2021- March 2021.

9. **Pratham Shah** (2nd Year I-M. Tech student) was involved in research project titled “Novel Ionic Solvent as Thermodynamic Inhibitor of Gas Hydrate Formation” under the guidance of Dr. Debashis Kundu.

It was under Bombay Technologist Undergraduate Research Program. The duration was January 2021- March 2021.

10. **Sakshi Subhash Tak** (2nd Year I-M. Tech student) was involved in research project titled “Predictive Modelling of Physiochemical Properties of Deep Eutectic Solvent” under the guidance of Dr. Debashis Kundu.

It was under Bombay Technologist Undergraduate Research Program. The duration was January 2021- March 2021.



Conference Participation and Co-Curricular Achievement

1. **Akshay Bedmunthe**, 3rd Year I-M. Tech student, participated at Oral and Poster Presentation Contest for International Conference on Emerging Technology in Food Processing on 27 March 2021. This contest was organized by GKC Institute of Food Technology, West Bengal. The title of Akshay's presentation is "Ready to Eat Protein Meal for HB Economically Distressed Community".
2. **Harsha Kasliwal and Akshat Bedmutha**, 3rd Year I-M. Tech student, participated in the competition organised by Haldia Institute of technology on World Food Day. They were shortlisted for presentation. It was scheduled on 7th January.
3. **Aman Patni and Ali Asger**, 3rd Year I-M. Tech student, selected for pitching round of Marathwada Accelerator for Growth and Incubation Council (MAGIC) Atmanirbhar Bharat Innovation Challenge 2021.
4. **Aditya Bhalerao and team** participated in ICT mumbai ADMad competition and won prize for best cinematography.
5. **Jidnyasa Chintamani**, 2nd Year I-M. Tech student, participated and recited her poems titled "The Jallianwala bagh" and "Covid warriors" at National Level Arts Competition and a National Level Poetry Contest respectively.
6. **Sarang Subhashchandra Shindalkar**, 2nd Year I-M. Tech student, presented his research paper titled "Extraction of Curcumin from Turmeric and it's Conversion in Nano Form" at the "National E-Conference on Advanced Research in Material Science" held on 22nd and 23rd February and organised by Department of Physics (SF) Kamaraj college- 628003, Thoothukudi, Tamilnadu.

Vortex 8.0: ADMAD

- **Jidnyasa Chintamani** participated at the VORTEX 8.0 fest of ICT Mumbai individually in the ADMAD event- Reel and poster on topic- menstrual hygiene products.
- Following student groups of 2nd Year I-M. Tech have been the finalists at the VORTEX 8.0 fest of ICT Mumbai individually in the ADMAD event-

Group 1

1. Aditya Deshpande
2. Gauri Ladda
3. Ketaki Patil
4. Pratham Shah
5. Tanisha Patni
6. Vaishnavi Patil

Name of product: Zucumber Food Delivery App

(The app focuses on promoting healthy eating, and so it provides authentic regional food along with the nutritional information about all items, making sure that the consumers get the tastiest and healthiest food possible.)

Group 2

1. Himanshu Mahesh Nagnure
2. Vrushank Dhake
3. Aryan Saldhana

Name of the App: HVA food services
(HVA food services provides free masks on all orders. These masks are made locally by household owners which also increases the employment in that area despite the decreasing employment in the ongoing pandemic. HVA food services provides the vital role in providing food & employment.)

Student Clubs

Media Club

1. **"Hope in the New Normal"**- this trimester photography competition was held to exude hope in our students. The entries were judged by an esteemed panel of judges comprising faculties

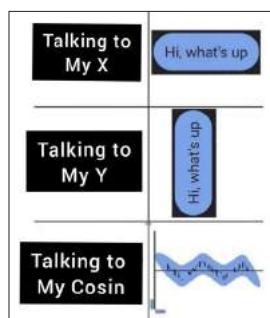
Winners:

1st place: Prajakta Ukhale (SY)



2nd place: Jidnyasa Chintamani (SY)

3rd place: Unnati Aggarwal (SY)



▲ Unnati Agrawal
Club Participation

2. Mathematical Memes- the second Meme Competition was held by the Media Club of ICT MARJ on the occasion of International Pi Day. Keeping in accordance with the day, the theme was selected to be 'Mathematical Memes'.

Participants showed much enthusiasm, and the winners were voted by the students themselves through public ballots.

Winners:

1st Place: Unnati Agrawal (SY)

2nd Place: Aditya Deshpande (SY)

3rd Place: Omkar Shetye (SY)

3. Investment Awareness & Financial Freedom (Webinar)



▲ PriFinserv Club
Participation

Finance, a topic that fails to hold attention of most of the audience, but PriFinserv just lit a spark of curiosity among them. The webinar revolved around basic financial knowledge everyone ought to inherit. It focused mainly on how and

why to start investing as early as possible. Both the mentors (Prithvi Prmar and Maher Dhamodiwala) were excellent in explaining all the jargons and their delivery made students feel confident about how to take financial decisions.

Technology and Innovation Club

Hosted a seminar on Investment Awareness & Financial Freedom by Mr. Prithvi Parmar in collaboration with Media Club which covered a lot of topics such as: -

1. Difference between Asset Classes available to invest in India.
2. Understanding the biggest enemy of money at the moment - Inflation. (the money killer)
3. Traditional Investment Methodology vs Modern World Investing Solutions.
4. Journey of Equity and its effects with Power of Compounding.
5. Importance of Early Investing and Goal Planning amongst spendthrift Young College Individuals.
6. Attaining the Habit of savings and maintain discipline towards Investing and regulating expenses.
7. Benefits of Long-Term Investing.
8. Importance of Adequate Insurance for the Financial Security of the Family.
9. Brief about Insurances needed for the breadwinner of the Family.

Art Club

Poster making competition was held on 13th of March 2021 which was based in the following topics-

1. Awareness about Corona
2. Farmers Protest Law Depiction
3. Free Form

This competition was held in

two categories hand made as well as digital. The winner for the competition were as follows:

1. Sharjil Khan
2. Aman Tamboli
3. Jidnyasa Chintamani
4. Ayush Gulhane
5. Aniket Shitole

Campus Development Activity

Virtual Campus Functioning

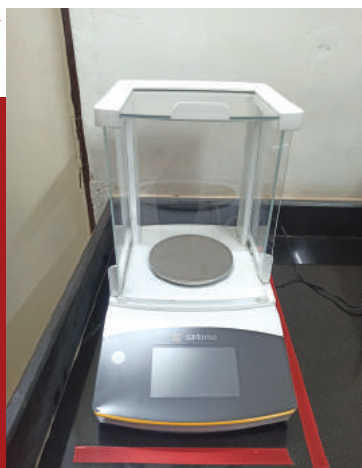
ICT MARJ was closed down in the month of March due to the second wave Corona threat and “break the chain” initiative of state govt. This is why, i-M. Tech. students and 2 Year M. Tech Students continued studying from home. Research scholars continued doing research with complete care and safe distancing. Support staff started going to campus on alternative days when necessary. The teaching fraternity who rejoined the campus as part of “Mission Begin” were advised to perform their academic responsibilities by working from home.

Wet-Lab Development

As mentioned in previous issue of Margjal (Vol. 3_Issue_1), our Wet-Lab is completely ready and functioning well. Some of our PhD

students perform(ed) their routine experiments too. Isothermal Titration Calorimetry (ITC) instrument has successfully been installed in the laboratory. The instrument engineer demonstrated its working and applications to our research scholars. This instrument is useful in quantitative studies of a wide variety of biomolecular interactions of organic molecules with larger macromolecules. It works by directly measuring the heat released or absorbed during a biomolecular binding event. We are very happy to inform you that big instruments such as PXRD, Fixed Bed Reactor, High Pressure Autoclave Reactor, BET surface area instruments are safely delivered to MARJ campus and they will be installed soon.

Weighing Balance ▶



Pressure Autoclave
▶ 100 ml



▼ GCMS



▲ FTIR

Campus Development

GCMS ▶



Magnetic stirrer ▼



▲ HPLC



▲ Rota evaporator



▲ Vacuum Oven



Student activity: Club Winners

j idnyasac



When you accidentally
solve a maths problem



▲ Student Club Activity

Jidnyasa_Club
Participation

Prajakta_Club ▶
Participation



Omkar
Shetye_Club
Participation

Poem on Covid
Warriors by
▼ Jidnyasa

दैनिक
कृष्णनिती
• Saturday 10 April 2020

कविता

कोण आहेत हे लोक ?
काय करतात हे ?
का महणतात यांना वॉरियर्स ?
चला पाहूया.

सकाळी जे आजोबा पाण्याचा जार घेऊन येतात,
जे दादा नाष्ट्याचे डब्ले घेऊन येतात,
जे दादा दस्तबिन च्या पिशव्या बदलतात,
ते आहेत खरे कविड वॉरियर्स.

जे डॉक्टर तीन वेळा तपासायला येतात,
जे मामा झाडू मरतात,
जे वॉचमन काका आम्हाला वेळेचे बंधन घालतात,
ते आहेत कोविड वॉरियर्स.

स्वतः चा जीवाची पर्वा न करता,
कोणाबद्दल मनात द्वेष न धरता,
ते त्यांचे काम प्रामाणिक पणे करतात,
आम्हा पेशंट सवे , कोरोना शी ते ही रोज लढतात.


आमची काही गैर-सोय ते होऊ देत नाही,
कोरोना ने कितीही घाबरवला तरी त्याला ते भित नाही.

पोसिटीव आहे आम्ही, हे ऐकताच लोक जवळ यायला ही घाबरतात,
पण हे लोक आम्हाला, वेलो वेळी सावरतात,
स्वतः negative असून, Positive वातावरणात ते वावरतात.

कोणास ठावूक कधी या महामारी ला पूर्ण विराम लागणार,
आम्ही इथून दहा दिवसात निघून जाऊ,
पण हे वॉरियर्स इथा रोज येणार आणि
कोरोना ला आप हून सामोरी जाणार.

अभिमान वाटतो मला ह्या लोकांचा,
जे एवढ्या निस्वार्थ भावनेन लोकांची सेवा करतात,
पैसे तरी कोणीही कमावत साहेब ,
हे लोकांचे आशीर्वाद कमावतात,
ह्याच देवदूतांना,
covid वॉरियर्स असे म्हणतात.

— जिज्ञासा चिंतामणी




ME WHILE STUDYING
FOURIER SERIES

ME WHILE
APPLICATION OF
FOURIER SERIES IN
REAL LIFE

Menstrual Hygiene Products

Sanitary pads
Sanitary pad is a MHP. It should be changed after atleast 6 hours for hygienic conditions. For irritation free menstruation, one should use soft cotton pads.

How to use Tampons

Tampons
A tampon is a menstrual product designed to absorb blood and vaginal secretions by insertion into the vagina during menstruation.

Menstrual cup
A menstrual cup is a type of reusable feminine hygiene product. It's a small, flexible funnel-shaped cup that you insert into your vagina to catch and collect period fluid.

HOW TO USE



◀ "ADMAD event- Reel and poster on topic- menstrual hygiene products by Jidnyasa"