

Department of Polymer Engineering

Polymer Engineering News Bulletin 2025

Print ISBN : 978-93-49090-88-0
Electronic ISBN : 978-93-49090-75-0



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Editors

Dr. S. Shamshath Begum
Mrs. J. Dafini

NEWS LETTER (2024-2025)



Alhaj Dr. B.S. Abdur Rahman
Founder of the Institution



Mrs. Qurraath Jameela
Chancellor



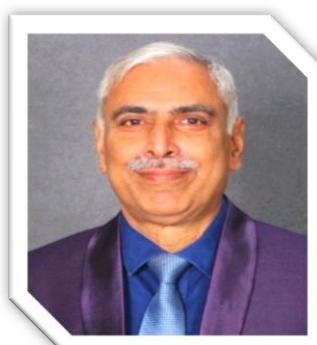
Mr. Abdul Qadir Abdul Rahman
Buhari
Pro-Chancellor



Prof. Dr. T. Murugesan
Vice-Chancellor



Dr. N. Thajuddin
Pro-Vice Chancellor



Dr. N. Raja Hussain
Registrar

NEWS LETTER (2024-2025)

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NEWS LETTER (2024-2025)



ABOUT THE DEPARTMENT

In 1996, the Department of Polymer Engineering was established to offer technical support to academic institutions, polymer industries, and national laboratories. It initiated the first four-year undergraduate program in Polymer Engineering in Tamil Nadu, with an initial intake of 30 students. The department is equipped with modern infrastructure and well-furnished laboratories, providing students with hands-on training in equipment handling and industrial practices. Graduates often secure positions in leading polymer companies such as Apollo Tyres, Kingfa Science & Technology, Motherson Limited, Asian Paints, TVS, MRF, and JK Tyres. The Polymer Engineering program at Crescent Institute is accredited by the NBA, and its adaptability and versatility are highly appreciated by entrepreneurs. A key feature of this course is the opportunity for students to pursue higher studies abroad with full scholarships.

NEWS LETTER (2024-2025)

Dr. H. Siddhi Jailani

Dean

School of Mechanical Sciences



MESSAGE FROM DEAN (SMS)

Looking back on the past year, I feel a deep sense of pride in the achievements of our students, faculty, and staff in the Department of Polymer Engineering. This year has been characterized by creativity, teamwork, and a strong dedication to academic and research quality. Our faculty persist in driving research that expands the frontiers of polymer science and engineering, making substantial contributions to both the academic sector and industry. Their efforts not only bolster our standing as a leading institution but also generate enduring effects in the domain.

Our students have thrived in every aspect, showcasing both academic excellence and passion in their endeavors. Through innovative research, involvement in contests, or involvement in extracurricular activities, they have consistently demonstrated their commitment and enthusiasm for education. Together, we anticipate another year of success and development as we keep pushing forward in the area of Polymer Engineering.

NEWS LETTER (2024-2025)

Dr. S. Shamshath Begum
Head of the Department (i/c)
Polymer Engineering



Message from Head of the Department

The Department of Polymer Engineering provides a four-year B.Tech and a Ph.D. program in Polymer Engineering. The aim of the department is to deliver top-notch education and training in polymer engineering, allowing us to create engineers who possess the essential technical skills and knowledge to fulfil societal needs. Reflecting on our incredible journey of almost 29 years, our collection boasts numerous remarkable achievements and accolades. The curriculum comprises project-oriented learning, design classes, and an industry-focused syllabus, along with practical training on equipment, etc. The department frequently hosts conferences, seminars, symposia, and workshops to foster connections with industries. Industrial visits and internships are included in our curriculum, and students are also motivated to undertake their final year projects in the industries. Our department possesses many publications and patents as well. Our students earned awards in multiple national-level paper and poster presentations throughout the academic year 2024-2025.

NEWS LETTER (2024-2025)

DEPARTMENT ACTIVITIES



NEWS LETTER (2024-2025)

National Level Seminar on “Revolutionizing Performance: The Role Of Rubber Innovations In Tyre Industry Advancements”

Dr. S. Shamshath Begum, Associate Professor and Head of Department (i/c), warmly welcomed everyone at the seminar. In her introductory remarks, she expressed her appreciation to the esteemed speakers, Mr Biju Amandra Keloth, Mr A. Tamil Selvan Natarajan, and She also extended a cordial welcome to the Registrar, Dr. Raja Hussain, Dr. H. Siddhi Jailani, Professor and Dean, and Dr. S. S. M. Abdul Majeed, Professor and Director of Admissions, along with all seminar participants. Dr. N. Raja Hussain, the Registrar, presented the presidential address, sharing his perspectives on departmental activities and the significance of the seminar. Dr. S. S. M. Abdul Majeed, the Director of Admissions, offered the felicitation in the event held on 28th October 2024.



NEWS LETTER (2024-2025)

Two Days to Training Program on “Injection Mould Flow Simulation Using Cad/Mould Software”

A hands-on training session on "Injection Mould Flow Simulation Using CAD/Mould Software" was conducted at the Department of Polymer Engineering. The training aimed to provide practical exposure to mould flow simulation, essential in polymer processing. It was led by two industry experts: Mr. Suresh Ponraj, Senior Technical Consultant and Country Manager at SIMCON, and Mr. Charan Raju M., Assistant Manager - Technical and Senior Simulation Engineer at Visco Peruse Tech Pvt. Ltd. The event was held on the 5th and 6th of November 2024, from 9:00 AM to 4:10 PM at the Seminar Hall. The session gave students and professionals an excellent opportunity to gain valuable experience with advanced simulation software used in injection moulding applications.

Department of Polymer Engineering
School of Mechanical Sciences
Association of Polymer Engineers
Organizes

» TWO DAYS TRAINING PROGRAM

ON

INJECTION MOULD FLOW SIMULATION
USING CAD/MOULD SOFTWARE

 Trainer
Mr. Suresh Ponraj
Senior Technical Consultant and
Country Manager - India
SIMCON (CAD/MOULD Software)

 Trainer
Mr. Charan Raju M
Assistant Manager-Technical and
Senior Simulation Engineer
Visco Peruse Tech Pvt Ltd, Chennai

Presidential Address
Dr. H. Siddhi Jailani
Professor & Dean

Felicitation
Dr. S.S.M. Abdul Majeed
Director (Admissions)

05th-06th Nov 2024
09.00 AM - 04.10 PM

Department of Polymer Engineering, Seminar Hall

 **Basanta Kumar Behera**
Coordinator

 **Dr. S. Shamshath Begum**
Head of Department (i/c)
Convenor



NEWS LETTER (2024-2025)

One Day National Workshop on “Mastering Composites Technology: Innovations And Application In Modern Engineering”

The Department of Polymer Engineering successfully organized a One-Day National Workshop on “**Mastering Composites Technology: Innovations and Applications in Modern Engineering**” on 27th November 2024. The event featured industry experts, academic leaders, and students from across India. Dr. S. Shamshath Begum inaugurated the event, followed by key addresses from university dignitaries. Mr. K. Jeganathan, Site Director at Ascend Performance Materials, delivered a keynote on “Current Trends and Demands in the Field of Polymers.” Participants from reputed institutions like CIPET, SRM, and Anna University attended. The workshop was a grand success, fostering knowledge-sharing and industry-academia interaction.

In the name of Allah, the most Beneficent, the most Merciful

Crescent
Institute of Science & Technology
Innovate in Science & Technology

AAAC

Association of Polymer Engineers
Department of Polymer Engineering
School of Mechanical Sciences
Organizes

One-Day National Workshop
on
‘Mastering Composites Technology :
Innovations and Applications in Modern Engineering’



Cheif Guest
Mr. Jeganathan . K
Site Director
Operations & Technology
Ascend Performance Materials, Chennai

Presidential Address
Dr. N. Thajudeen
Pro-Vice Chancellor

Felicitation
Dr. N. Raja Hussain
Registrar


FRIDAY | 22 NOVEMBER, 2024
10:00 AM


SEMINAR HALL - I
CONVENTION CENTRE
BSACIST

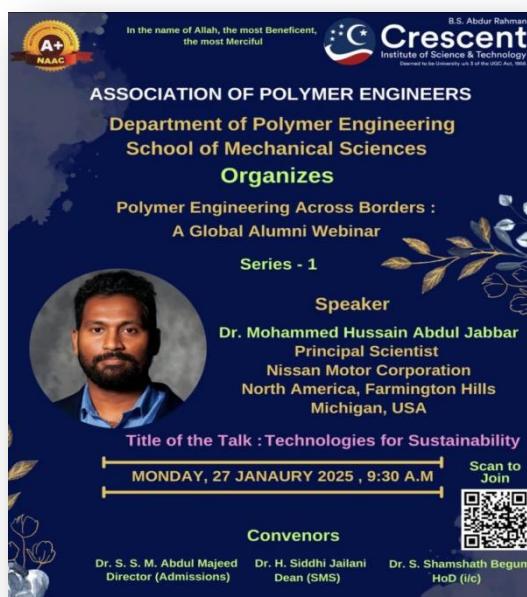


NEWS LETTER

(2024-2025)

A Global Alumni Webinar Series-1 on “TECHNOLOGIES FOR SUSTAINABILITY”

The Department of Polymer Engineering, School of Mechanical Sciences at Crescent Institute of Science & Technology, successfully organized the first edition of its global alumni webinar series titled “Polymer Engineering Across Borders” on Monday, 27th January 2025 at 9:30 AM. This insightful session featured Dr. Mohammed Hussain Abdul Jabbar, an esteemed alumnus and Principal Scientist at Nissan Motor Corporation, North America, located in Farmington Hills, Michigan, USA. Dr. Jabbar delivered a compelling talk on “**Technologies for Sustainability**,” in which he shared his valuable insights and global industry experience. The webinar aimed to inspire current students and connect them with global alumni who are making significant contributions in the field. The session also served as a platform for knowledge exchange on sustainable innovations in polymer engineering. The event was convened by Dr. S. S. M. Abdul Majeed (Director, Admissions), Dr. H. Siddhi Jailani (Dean, SMS), and Dr. S. Shamshath Begum (HoD i/c, Polymer Engineering).



NEWS LETTER (2024-2025)

A Global Alumni Webinar Series -2 on “BRIDGING POLYMER TECHNOLOGY AND FUEL CELLS TECHNOLOGY FOR A SUSTAINABLE FUTURE”

As part of the Borders: Global Alumni Webinar Series 2, a virtual session titled “**Bridging Polymer Technology and Fuel Cells Technology for a Sustainable Future**” was successfully conducted on 12th February 2025 at 11:00 AM IST. The event featured Dr. Muhammed Ali. S. A, Senior Lecturer at the Fuel Cell Institute, Universiti Kebangsaan Malaysia, as the keynote speaker. The webinar focused on the integration of polymer technology with fuel cell systems to promote sustainability and environmental consciousness. Dr. Muhammed Ali provided deep insights into the future potential of renewable energy solutions through advanced materials and innovative approaches. Attendees from diverse academic and industrial backgrounds participated in the session, making it an enriching experience. The event served as a valuable platform for knowledge sharing, fostering global collaboration and encouraging further research in sustainable energy technologies.



NEWS LETTER

(2024-2025)

National level Technical Symposium “MACRON 2K25”- 27th February 2025

The National Level Technical Symposium “MACRON-2025,” organized by the Department of Polymer Engineering, was successfully featured across multiple social media platforms and newspapers. Held on 27th February 2025, the event began with an inspiring presidential address by the Registrar, Dr. N. Raja Hussain, followed by a thought-provoking keynote address delivered by Mr. M. Kumar, Managing Director of Shibaura Machine India Pvt. Ltd., Chennai. The symposium witnessed enthusiastic participation from prestigious institutions such as Madras Institute of Technology (MIT–Anna University), CIPET, Dhaanesh Ahmed Institute of Technology, Agni College of Technology, and many more, making it a phenomenal success.



NEWS LETTER

(2024-2025)

A Global Alumni Webinar Series - 3 on “POLYMER MEMBRANES FOR GAS SEPERATION”

The Department of Polymer Engineering successfully conducted the third session of the Virtual Webinar Series titled “Polymer Engineering Across Borders: A Global Alumni Webinar – Series 3” on 19th March 2025 at 11:00 AM. The session featured Dr. Mohamed Aejaaz Kolmangadi, Head of Thermal Analysis at Covestro, Germany, who delivered an informative talk on the topic **“Polymer Membranes for Gas Separations.”** The event offered valuable insights into advanced membrane technologies and their applications in gas separation processes, drawing the interest of participants from various academic and research backgrounds..



NEWS LETTER (2024-2025)

A Global Alumni Webinar Series - 4 on “ROLE OF POLYMERS IN MODERN BUILDING CONSTRUCTION”

The Department of Polymer Engineering, School of Mechanical Sciences, organized the fourth session of the “Polymer Engineering Across Borders: A Global Alumni Webinar Series” on April 11, 2025. The talk, titled “Role of Polymers in Modern Building Construction,” was delivered by Mr. Mahmood Ali Ismail, Senior Technical Sales Engineer at FOSROC, Kuwait. The event took place on Zoom at 10:00 AM. It was convened by Dr. S. S. M. Abdul Majeed, Dr. H. Siddhi Jailani, and Dr. S. Shamshath Begum.



NEWS LETTER (2024-2025)

Industry Interaction with Finorchem Ltd

An industry interaction session was held by Finorchem Ltd. with the Department of Polymer Engineering. Mr. Santhanam Ganesh, Vice President – Sales and Marketing, and Mr. D. Govindrajan, Deputy General Manager – Sales and Technical Services, interacted with final-year students and faculty members on 17th April 2025. The discussion covered demand trends in the rubber industry, the current industrial landscape, and essential skills for industry readiness. They also discussed the department's testing and consultancy capabilities, ongoing research, and student activities. The session provided valuable insights into industry expectations. The department extended heartfelt thanks to the Finorchem team for their time and knowledge sharing.



NEWS LETTER (2024-2025)

A Guest Lecture on “Testing and Analysis of Polymers”

On April 23, 2025, the Association of Polymer Engineers, Department of Polymer Engineering, School of Mechanical Sciences, organized a guest lecture on **“Testing and Analysis of Polymers.”** The event took place at the Mechanical Engineering Conference Hall at 2:30 PM. Dr. C. Anbichelvan, Managing Director of Japan Polymer and Analytical Research Laboratory India Pvt. Ltd., Chennai, was the guest speaker. He shared valuable insights into advanced polymer testing and analysis techniques. The lecture benefited both students and faculty. The event was convened by Dr. S. S. M. Abdul Majeed, Dr. H. Siddhi Jailani, Dr. S. Shamshath Begum, and Dr. Basanta Kumar Behera.

In the name of Allah the most Beneficent, the most Merciful

ASSOCIATION OF POLYMER ENGINEERS
DEPARTMENT OF POLYMER ENGINEERING
SCHOOL OF MECHANICAL SCIENCES

Organizes

Guest Lecture
on
“Testing and Analysis of Polymers”

Dr. C. Anbichelvan
Managing Director
Japan Polymer and Analytical
Research Laboratory India
Private Limited
Chennai

Conference Hall
Mechanical Engineering
23 April 2025
2.30 PM

REGISTER HERE

Conveners

Dr. S. S. M. Abdul Majeed
Professor &
Director - Admissions

Dr. H. Siddhi Jailani
Professor &
Dean (SMS)

Dr. S. Shamshath Begum
Associate Professor &
HoD (i/c)

Faculty Coordinator
Dr. Basanta Kumar Behera
Assistant Professor (Sr. Gr)

Common Test Standards

- ASTM D2130 - Standard Test Method for Rubber Deterioration by Ozone Oxidation Cracking on a Circular Specimen
- ISO 1411 - Resistance to Ozone Cracking - Part 1: Test Method
- ISO 18000 - Testing Rubber - Resistance to Ozone Cracking (static and Dynamic Conditions)

NEWS LETTER (2024-2025)

A Global Alumni Webinar Series - 5 on “POLYMER SCIENCE AND DEEP TECH: INNOVATIONS, CHALLENGES AND FUTURE DIRECTIONS”

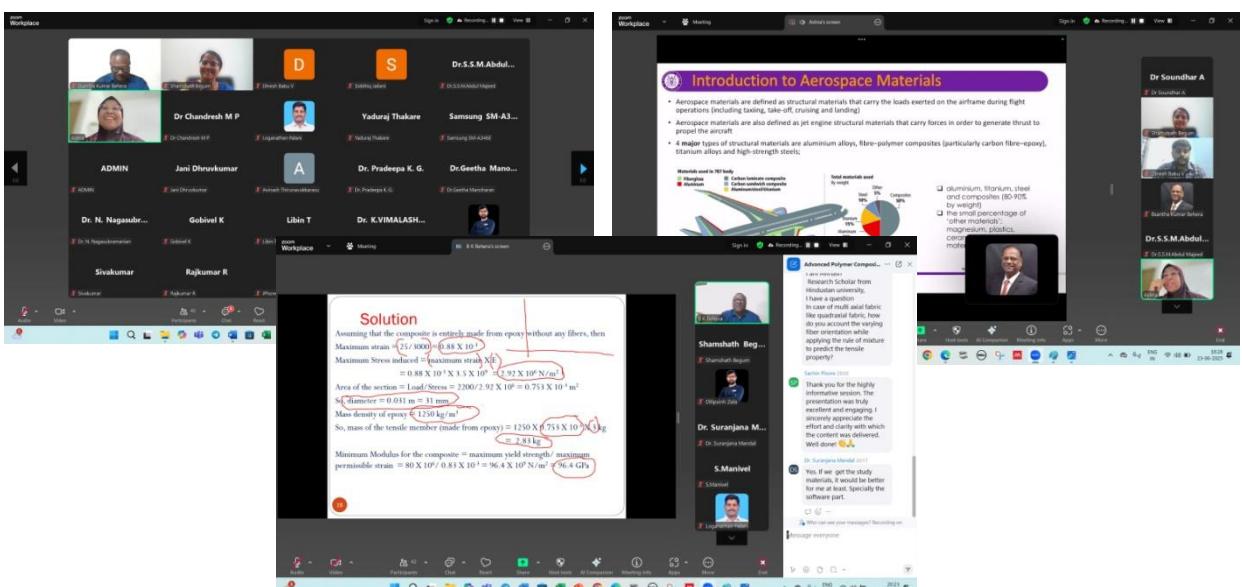
On May 9, 2025, the Association of Polymer Engineers, Department of Polymer Engineering, School of Mechanical Sciences, organized the fifth edition of the Polymer Engineering Across Borders: A Global Alumni Webinar Series. The session featured Mrs. Seetha Chandramouli, Investment Manager at Brabantse Ontwikkelings Maatschappij (BOM), Eindhoven, Netherlands, as the guest speaker. She delivered a talk titled **“Polymer Science and Deep Tech: Innovations, Challenges and Future Directions.”** The webinar began at 12:15 PM on Zoom and was attended by students and faculty. The event was convened by Dr. H. Siddhi Jailani, Dr. S. S. M. Abdul Majeed, and Dr. S. Shamshath Begum.



NEWS LETTER (2024-2025)

Online One week Faculty Development Program, “Advanced Polymer Composites for Aerospace and Mechanical Applications, APCAMA – 2025”, 23rd June – 28th June 2025

Department of Polymer Engineering and the Department of Aerospace Engineering jointly organizes the online one week faculty development program from 23rd June to 28th June 2025. The FDP represents a focused one-week initiative aimed at equipping academic professionals with a comprehensive understanding of the latest innovations in polymer composites. The FDP was co-ordinated by Dr. Basanta Kumar Behera (Department of Polymer Engineering) and Mr. V. Dinesh Babu (Department of Aerospace Engineering). Experts from leading industries and academicians delivered lectures on various topics and followed by interactive question and answer sessions. More than 70 participants from 33 different institutions participated in the FDP programme.



NEWS LETTER (2024-2025)

Board of Studies Meeting – 10th July 2025

The Department of Polymer Engineering successfully conducted the Board of Studies (BOS) meeting on 10th July 2025 with the participation of industry and academic experts.

Expert Members:

Mr. V. Sekar, Managing Director, Formulated Polymers, Chennai (Industry Expert)

Dr. K. Elangovan, Associate Professor, MIT, Anna University, Chennai (Academic Expert)

The discussions focused on Curriculum 2025 with significant updates and enhancements to the B.Tech. Polymer Engineering program. The Board also defined the Program Educational Objectives (PEOs) and Program Specific Outcomes (PSOs) to align with industry needs and academic excellence.



NEWS LETTER (2024-2025)

Major Equipments



Fully Automatic Blow Moulding Machine - 22.10.2024



Moving Die Rheometer - 24.09.2024

NEWS LETTER (2024-2025)

FACULTY CORNER



NEWS LETTER

(2024-2025)

FACULTY PUBLICATIONS

Sriram Srinivasan, Changfeng Ge , Christopher L. Lewis , **S. Shamshath Begum**, Asit Baran Samui, Hans Frederick Noyes, "Effect of chemical modification of corn starch for the development of films for packaging applications: Impact of glutaraldehyde and organically modified montmorillonite incorporation." *Carbohydrate Polymers* (2025): 124019. DOI: <https://doi.org/10.1016/j.carbpol.2025.124019>

R.Arun Ramnath , P. Senthamaraiakannan, Indran Suyambulingam , **Shamshath Begum**, S. Jeyanthi, Divya Divakaran"Characterization of novel bio-plasticizer from Cissus quadrangularis linn. stem: A sustainable and cleaner material for futuristic applications." *Industrial Crops and Products* 223 (2025): 120153.

DOI: <https://doi.org/10.1016/j.indcrop.2024.120153>

S.Shamshath Begum, Divya Divakaran , Indran Suyambulingam , P. Senthamaraiakannan, Murni Handayani, Adhigan Murali, Sung Soo Han "Comprehensive characterization of bioplasticizer from the Murraya koenigii leaves: From biomass to biomaterial for polymer composite applications." *Industrial Crops and Products* 222 (2024): 119950.

DOI: <https://doi.org/10.1016/j.indcrop.2024.119950>

Shamshath Begum, S., Indran Suyambulingam, P. Senthamaraiakannan, S. H. Suhailuddin, K. Aprajith, and R. Kumar. "Biofiber from Musa paradisiaca L., Peduncle Biomass Waste: Extraction and Characterization for Polymer Composites Suitability Study." *Journal of Natural Fibers* 21, no. 1 (2024): 2433039.

DOI: <https://doi.org/10.1080/15440478.2024.2433039>

Valsadwala, Abbas Saifee, Sriram Srinivasan, Surya Rajan Balachandran, **S. Shamshath Begum**, Asit Baran Samui, and Sandeep Kumar Shukla. "Investigating the influence of periwinkle shell powder on the thermal and mechanical performance of high-density polyethylene composites." *Materials Research Express* 11, no. 10 (2024): 105308.

DOI: <http://dx.doi.org/10.1088/2053-1591/ad8a1b>

NEWS LETTER

(2024-2025)

FACULTY PUBLICATIONS

Behera, Basanta Kumar, "Preparation and characterization of basalt fiber (BF) reinforced acrylonitrile butadiene styrene (ABS)/cocoanut fiber (CF) hybrid composites: Study on mechanical, thermal and viscoelastic properties." *Journal of Thermoplastic Composite Materials* (2025): 08927057251344152.

DOI: <https://doi.org/10.1177/08927057251344152>

Behera, Basanta Kumar, "Preparation and characterization of ramie fiber reinforcement on acrylonitrile butadiene styrene/cassava starch hybrid bio-composites." *Journal of Mechanical Engineering (JMechE)* 22, no. 1 (2025): 1-16.

DOI: <https://doi.org/10.24191/jmeche.v22i1.4551>

Dharmaraj, Murali Manohar, Bikash Chandra Chakraborty, **Basanta Kumar Behera, Daulath Banu Rahim**, and **Shahitha Parveen Jakriya Sheriff**. "Enhanced mechanical properties and interfacial interaction in Nitrile rubber-polyvinyl chloride blends reinforced with graphene: a comprehensive study." *Journal of Polymer Research* 31, no. 12 (2024): 374.

DOI: <https://doi.org/10.1007/s10965-024-04198-8>

Pandian, C. K., M. Thirumurugan, **J. Shahitha Parveen**, and G. Rajesh. "3D fused deposition modelling of PLA/PBAT nanocomposites reinforced with GnP: Mechanical and thermal characterizations." *Journal Of Elastomers And Plastics* (2025).

DOI: <https://doi.org/10.1177/00952443251339798>

Alemu, T.A., Ayele, D.W., Mani, D., Worku, A.K., Teshager, M.A., Wubieneh, T.A., Assegie, A.A., Negedu, S.D., Ayalew, M.Y., Ramamurthy, P.C. and **Praveen, J.S.**, 2024. Novel Ag-Doped-Poly (aniline-co-pyrrole)/Titanium-Dioxide Nanocomposite Sensor Material for Ammonia Detection in Spoiled Meat. *Journal of The Electrochemical Society*, 171(10), p.107509.

DOI: <https://doi.org/10.1149/1945-7111/ad83f8>

NEWS LETTER (2024-2025)

FACULTY PUBLICATIONS

Banu, R. Daulath, R. Karunanithi, S. Sivasankaran, B. Subramanian, and Abdullah A. Alhomidan. "Influence of graphene nanoplatelets (GNPs) and aluminum-carbon layered double hydroxides (Al-C LDH) in polypropylene matrix of hybrid composite structures on the microstructure and mechanical performances." *AIMS Materials Science* 11, no. 5 (2024): 882-917.

DOI: <https://doi.org/10.3934/matersci.2024043>

Banu, R. Daulath, R. Karunanithi, S. Sivasankaran, B. Subramanian, and Abdullah A. Alhomidan. "Synthesis, characterization, thermal and mechanical behavior of polypropylene hybrid composites embedded with CaCO₃ and graphene nano-platelets (GNPs) for structural applications." *AIMS Materials Science* 11, no. 3 (2024): 463-494.

DOI: <https://doi.org/10.3934/matersci.2024024>

Dafini, J., P. Gurusivam, and P. Baskaralingam. "Facile synthesis of a novel porous polymer material from waste expanded polystyrene and its application in the adsorption of anionic dyes in aqueous media." *Journal of Molecular Structure* 1328 (2025): 141235.

DOI: <https://doi.org/10.1016/j.molstruc.2024.141235>

NEWS LETTER (2024-2025)

Key Note Speaker/ Invited Talk

Dr. S. Shamshath Begum,

Keynote Speaker & Chief Guest at the **15th International Conference on Science & Innovative Engineering 2025** held on 26th April 2025 at Prince Shri Venkateswara Padmavathy Engineering College and Prince Dr. K. Vasudevan College of Engineering & Technology, in association with Manipal University College, Malaysia.

Guest Lecturer for **the Faculty Development Programme (FDP)** titled “Sustainable Packaging and Process Efficiency: Solving the Dual Challenge in Food Industry” on 4th June 2025 at the Department of Chemical Engineering, Sri Venkateswara College of Engineering (SVCE), Sriperumbudur, Tamil Nadu.

Keynote Speaker at the **7th International Conference on Materials Science and Manufacturing Technology 2025** on the topic “Smart Polymer Composites: From Structural to Self-Sensing Materials” held on 26th June 2025 at Akshaya College of Engineering and Technology, Coimbatore, Tamil Nadu, India.

NEWS LETTER (2024-2025)

International Conference

Dr. Basanta Kumar Behera has presented the work (oral) entitled “A Study on the Mechanical and Viscoelastic Characteristics of Compression Molded Acrylonitrile Butadiene Styrene(ABS)/Coconut Fiber (CF) Bio-Composites and the Cole-Cole Plots” in the **International conference on Advanced Functional Materials and Devices (AFMD – 2024)** organized by Nanotechnology Research Center (NRC), SRM Institute of Science and Technology, Kattankulathur, Chennai, Tamilnadu, India, held during February 29 – 29, 2024.

Dr. J. Shahitha Parveen has presented a poster titled, “Development and Characterization of Poly (vinyl) alcohol based hydrogel with long term biocompatibility for skin wound repair.” in the **international conference on Smart Materials for Green Energy & Environmental Sustainability (SMaGEES 2024)** organized by School of Physical and Chemical Sciences, B. S. Abdur Rahman Crescent Institute of Science & Technology, Vandalur during 11 & 12 December 2024.

NEWS LETTER (2024-2025)

Book Chapters

Basanta Kumar Behera and M. Thirumurugan

Title : “The Addition of Polytetrafluoroethylene (PTFE) and Graphite on Acrylo Nitrile Butadiene Styrene (ABS) and its effects on Mechanical and Tribological Characteristics”, Advances in Design and Thermal Systems, Lecture Notes in Mechanical Engineering – Springer Publications, 2020. DOI : 10.1007/978-981-33-6428-8, ISBN : 978-981-336-427-1, pp.221-234.

Dr. S. Shamshath Begum

Title : “2D nanomaterials for removal of gas molecules” Nanomaterials in Environmental Analysis – Elsevier Publications, 2024. DOI : <https://doi.org/10.1016/B978-0-12-820643-0.00020-1>, ISBN : 978-0-12-820643-0, pp.393-417.

NEWS LETTER (2024-2025)

FDP/ STTP

- ❖ **Dr. Basanta Kumar Behera** participated in the Five-Day Faculty Training programme on MATLAB EDU PRO DAYS: Mastering MATLAB for Campus –Wide Innovation held on 19th to 23rd May 2025.
- ❖ **Dr. J. Shahitha Parveen** participated in the Five-Day Faculty Training programme on MATLAB EDU PRO DAYS: Mastering MATLAB for Campus –Wide Innovation held on 19th to 23rd May 2025.
- ❖ **Dr. R. Daulath Banu** participated in the Five-Day Faculty Training programme on MATLAB EDU PRO DAYS: Mastering MATLAB for Campus –Wide Innovation held on 19th to 23rd May 2025.
- ❖ **Dr. J. Shahitha Parveen** participated on online one week FDP Programme on “Advanced Polymer Composites for Aerospace and Mechanical applications – APCAMA 2025”, jointly organized by the Department of Polymer Engineering and Department of Aerospace Engineering, B. S. Abdur Rahman Crescent Institute of Science and Technology during 23rd to 28th June 2025.

NEWS LETTER
(2024-2025)

STUDENT'S CORNER



NEWS LETTER (2024-2025)

STUDENT'S ACHIEVEMENTS

- **Y. Lekashree, J. Gladwin, and A. Naveen Arockia Josuva** from 3rd Year B.Tech. Polymer Engineering (2022–2026 Batch) secured 1st Place in the Poster Presentation at Chemflux 12.0, a National Level Technical Symposium organized by SRM University, Chennai. The event was held on 20th – 21st March 2025.
- **Y. Lekashree, J. Gladwin, and A. Naveen Arockia Josuva** from 3rd Year B.Tech. Polymer Engineering (2022–2026 Batch) won 2nd Place in the Paper Presentation at Chemflux 12.0, a National Level Technical Symposium organized by SRM University, Chennai. The event was held on 20th – 21st March 2025.

Guided by: Dr. S. Shamshath Begum



NEWS LETTER (2024-2025)

STUDENT'S ACHIEVEMENTS

- **Y. Lekashree, J. Gladwin, A. Naveen Arockia Josuva, and B. R. Shubhash** from 3rd Year B.Tech. Polymer Engineering (2022–2026 Batch) secured **1st Place** in the **Paper Presentation** at **Elastoplaz'25**, a **National Level Technical Symposium** organized by the **Department of Rubber and Plastics Technology, MIT Campus, Anna University, Chennai**. The event was held on **April 12, 2025**.
- **Y. Lekashree, J. Gladwin, A. Naveen Arockia Josuva, and B. R. Shubhash** won **2nd Place** in the **Poster Presentation** on the topic [insert topic name] at **Elastoplaz'25**, organized by the **Department of Rubber and Plastics Technology, MIT Campus, Anna University, Chennai**. The event was held on **April 12, 2025**.

Guided by: Dr. S. Shamshath Begum



NEWS LETTER (2024-2025)

STUDENT'S ACHIEVEMENTS

- Mohamed Fazil and Dhandayuthapani from 3rd Year B.Tech. Polymer Engineering (2022–2026 Batch) secured 1st Place in the Poster Presentation at Elastoplaz'25, organized by the Department of Rubber and Plastics Technology, MIT Campus, Anna University, Chennai. The event was held on April 12, 2025.

Guided by: Mrs. J. Dafini

- Mohamed Fazil and Dhandayuthapani from 3rd Year B.Tech. Polymer Engineering (2022–2026 Batch) secured 1st Place in both the Technical Quiz and Speak Up competitions at Elastoplaz'25, organized by the Department of Rubber and Plastics Technology, MIT Campus, Anna University, Chennai. The event was held on April 12, 2025.



NEWS LETTER (2024-2025)

STUDENT'S ACHIEVEMENTS

- **S. P. Logeswari and P. V. Manoj** from **Final Year B.Tech. Polymer Engineering (2021–2025 Batch)** received the **Best Paper Award** at the **5th International Conference on "Recent Trends in Engineering, Technology and Management"** held in **April 2025**. The achievement took place at **B. S. Abdur Rahman Crescent Institute of Science and Technology, Chennai**.



- **Manoj P. V., Logeswari S. P., Aneesh P. K., and Ramyashree V.** from the **Final Year B.Tech. Polymer Engineering (2021–2025 Batch)** received official approval under the **TNSCST Students Project Scheme 2024–2025** for their project titled **“Development and Characterization of Single-Use Bioplastic Packaging Film Material.”** The approval was granted in **April 2025** at **B. S. Abdur Rahman Crescent Institute of Science and Technology, Chennai**.

Guided by: Dr. S. Shamshath Begum



NEWS LETTER (2024-2025)

NPTEL CERTIFICATIONS

Elite
NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
MOHAMED FAZIL
for successfully completing the course
Polymer Process Engineering

with a consolidated score of **73** %

Online Assignments	23.63/25	Proctored Exam	49.5/75
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Total number of candidates certified in this course: **55**


Prof. Kaushik Ghosh,
Professor(Chemistry)
Coordinator CEC

Jul-Oct 2024
(12 week course)


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No. of credits recommended: 3 or 4

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NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
PRAVEEN M
for successfully completing the course
Polymer Process Engineering

with a consolidated score of **69** %

Online Assignments	22.31/25	Proctored Exam	46.5/75
--------------------	----------	----------------	---------

Total number of candidates certified in this course: **55**


Prof. Kaushik Ghosh,
Professor(Chemistry)
Coordinator CEC

Jul-Oct 2024
(12 week course)


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No. of credits recommended: 3 or 4

NEWS LETTER

(2024-2025)

INDUSTRIAL VISITS

S. No	Participant Details			Name of Faculty involved	Industry Visited	Date of Visit
	Programme	Sem	No.of Students			
1.	Industrial Visit	IV & VI	40	Mrs. Daulath Banu & Dr. Shahitha Parveen	Rane Brake Lining Limited	16-02-2025
2.	Industrial Visit	IV	17	Dr. Poondi Srinivasan	Eco Pack Pvt Ltd	19-03-2025
3	Industrial Visit	IV	17	Dr. Poondi Srinivasan & Mrs Dafini	United Industries Plastic Pvt Ltd	18-02-2025
4	Industrial Visit	III & V	40	Mrs. Daulath Banu & Dr. Shahitha Parveen	X MOLD Polymers Pvt Ltd	24-10-2024
5	Industrial Visit	V	23	Dr. Poondi Srinivasan & Mrs. Dafini	Polyene General Industries Pvt Ltd	23-10-2024
6	Industrial Visit	VII	26	Dr. Basanta Kumar Behera	Indian Rubber Materials Research Institute	19-10-2024
7.	Industrial Visit	VII	26	Dr. Shamshath Begum	Springfeel Polyurethane Foams Pvt Ltd	03-10-2024

NEWS LETTER (2024-2025)

INDUSTRIAL VISITS



Polyene General Industries Pvt Ltd



IRMRI, Andhra Pradesh

NEWS LETTER (2024-2025)

INDUSTRIAL VISITS



United Industries Plastic Pvt. Ltd.



Rane Brake Lining Limited

NEWS LETTER

(2024-2025)

INTERNSHIPS

RRN	Name	Industry name	Place	Duration
230131601001	Alamin	JK Fenner India limited	Chennai	24-06-24 to 08-07-24
230131601002	Athikesavan B	Polyhose Pvt Ltd	Sriperumbudur	24-06-24 to 06-07-24
230131601003	Harish Muthuselvan	HAYAGREVA POLYMER	Coimbatore	19/06/2025 to 13/07/2025
230131601004	Ibrahim Bootwala	Hateme Plastic Industries	Redhills, Chennai	26-06-25 to 12-07-25
230131601005	Nitin Srinivasan	Polyhose Pvt Ltd	Irungattukottai	01-07-24 to 13-07-24
230131601006	Rizwan Shariff A	SUJEET PLASTICS	Thirurmulalvoyal, Chennai	26-06-25 to 12-07-25
230131601007	Shaik Farid U	Polyhose Pvt Ltd	Irungattukottai	01-07-24 to 13-07-24
230131601008	Swetha Mariyappan	HDC HYUNDAI EP (Hyundai Engineering Plastics India Pvt Ltd)	Thiruvallur	24-06-24 to 08-07-24

NEWS LETTER

(2024-2025)

INTERNSHIPS

RRN	Name	Industry name	Place	Duration
230131601009	Vetrichelvi M A	ESKEGIE RECLAIMS PRIVATE LIMITED	Namakkal	20-06-25 to 10-07-25
230131602001	Prasanna B	DK ENGINEERING	Ekkatuthangal	23-06-25 to 11-07-25
230131602002	Shanmuga Venkat D	DK ENGINEERING	Ekkatuthangal	23-06-25 to 11-07-25
230131602003	Srivishnu G	HDC HYUNDAI EP (Hyundai Engineering Plastics India Pvt Ltd)	Thiruvallur	23-06-25 to 09- 07-25
230131602004	Avinaash S	DK ENGINEERING	Ekkatuthangal	23-06-25 to 11-07-25
230131602005	Kawin B K	HDC HYUNDAI EP (Hyundai Engineering Plastics India Pvt Ltd)	Thiruvallur	23-06-25 to 09- 07-25
230131602006	Prakash V	SUJEET PLASTICS	Thirurmulalvoyal, Chennai	26-06-25 to 12- 07-25
230131602007	Akash R	MS engineering and plastics Puducherry	Pudhucherry	25-06-25 to 10-07-25
230131602008	Nandhakumar R	DK ENGINEERING	Ekkatuthangal	23-06-25 to 11-07-25

NEWS LETTER

(2024-2025)

INTERNSHIPS

RRN	Name	Industry name	Place	Duration
220131601001	Anandu Sunil	Aarthi Rubber	kanchipuram	05-06-2025 to 23-06-2025
220131601002	Dhandayuthapani R	Harshavardhani Packaging	Pondicherry	23-06-2025 to 09-07-2025
220131601003	Hari Ram Prasad K	Taylor Rubber Pvt Ltd	Thirumudivakkam	05-06-2025 to 26-06-2025
220131601004	Lekashree	Varmas Elasto Seals	Coimbatore	05-06-2025 to 26-06-2025
220131601005	Mohamed Fazil	Varmas Elasto Seals	Coimbatore	05-06-2025 to 26-06-2025
220131601006	Muhammad Sheik Razeen	Harshavardhani Packaging	Pondicherry	23-06-2025 to 09-07-2025
220131601007	Musthaq Naina B	Sujeet Plastics	Chennai	10-06-2025 to 30-06-2025
220131601008	Naveen Arockia Josuva	Varmas Elasto Seals	Coimbatore	05-06-2025 to 26-06-2025
220131601009	Praveen	Aathi Rubber	kanchipuram	05-06-2025 to 23-06-2025

NEWS LETTER

(2024-2025)

INTERNSHIPS

RRN	Name	Industry Name	Place	Duration
220131601010	Ragul Ganesh	Arjuna Poly Extrusion	Avinashi	25-06-2025 to 10-07-2025
220131601012	Tawfeequr Rahman	Harshavardhani packaging	Pondicherry	23-06-2025 to 09-07-2025
220131601013	Tharik Azees	Taylor Rubber Pvt Ltd	Thirumudivakkam	05-06-2025 to 26-06-2025
220131601014	Vigneshwaran	Aathi rubber	kanchipuram	05-06-2025 to 23-06-2025
220131602001	J.Gladwin	SA Plastics	Thirupur	16-6-2025 to 4-7-2025
220131602002	Gugapriyan	Sri Sun Auto Plast	Thirumudivakkam	16-06-2025 to 05-07-2025
220131602003	Kiran	Cori engineers	Thiruvanmiyur	28-6-2025 to 12-07-2025
220131602005	Mohammed Ismail Sualiman	Sri Sun Auto Plast	Thirumudivakkam	16-06-2025 to 05-07-2025

NEWS LETTER (2024-2025)

INTERNSHIPS

Rrn	Name	Industry Name	Place	Duration
220131602006	Nirmal Rajan M.N	Taylor Rubber Pvt Ltd	Thirumudivakkam	05-06-2025 to 26-06-2025
220131602010	Taherunnisa P	Uvil Technology	Madhavaram	16-06-2025 to 05-07-2025
220131602011	Sindhanai Chelvan	Cori engineers	Thiruvanmiyur	28-6-2025 to 12-07-2025
220131602012	Shubhash	SA Plastics	Thirupur	16-6-2025 to 04 -07-2025

NEWS LETTER (2024-2025)

PROJECTS

A STUDY ON CURE KINETICS OF UNSATURATED POLYESTER RESIN WITH VARIOUS AMOUNT OF CATALYST AND ACCELERATOR



We (Lekashree, Pathan thaherunisa) have developed curing behavior of unsaturated polyester resin (UPR) greatly affects its final thermal and mechanical properties. Understanding its cure kinetics is crucial for process optimization, improved performance, and reliable product quality. Cure kinetics describe the reaction rate and mechanism during polymerization, influenced by temperature, catalysts, and resin composition. By analyzing these parameters, manufacturers can predict curing time, avoid defects, and enhance durability. Such knowledge ensures consistent processing and supports the development of advanced polyester resin applications across industries.

NEWS LETTER (2024-2025)

PROJECTS

STUDY ON CURING KINETICS OF CROSSLINKED HIGH-DENSITY POLYETHYLENE USING PEROXIDE CURING



We Naveen, Gladwin, Shubhash have developed Crosslinking high-density polyethylene (HDPE) with Di-Cumyl peroxide (DCP) enhances its thermal stability, chemical resistance, and mechanical strength. This study examines curing kinetics using Differential Scanning Calorimetry under non-isothermal conditions, applying Kissinger and Ozawa–Flynn–Wall models to determine activation energy and reaction order. Results show peroxide concentration strongly influences crosslinking rate and decomposition onset. Higher DCP levels accelerated reactions and reduced activation energy, but excess caused uneven crosslinking and degradation. These findings highlight optimal peroxide loading for improved processing and performance of crosslinked HDPE.

NEWS LETTER (2024-2025)

PROJECTS

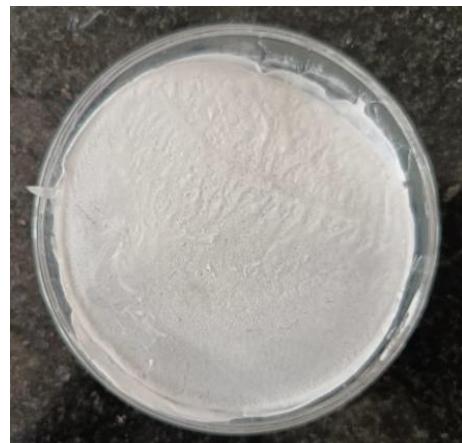
STUDY ON CURE KINETICS AND MECHANICAL PROPERTIES OF NBR AND SBR BLEND COMPOUNDS WITH SUSTAINABLE FILLER USING MDR



We Mohamed fazil, Hari Ram prasad, Praveen, Tawfeequr Rahman have developed the cure kinetics and mechanical properties of NBR/SBR blends reinforced with a sustainable filler. Cure behaviour was studied using a Moving Die Rheometer at different temperatures, and kinetic parameters were determined by the Arrhenius model. Mechanical tests included tensile strength, elongation, and hardness. The eco-friendly filler affected scorch time, cure time, and crosslinking efficiency. Results showed enhanced curing behavior and comparable or improved properties, highlighting its potential as a green alternative to conventional fillers in rubber compounding.

PROJECTS

DEVELOPMENT AND CHARACTERIZATION OF PLA / NANO CARBON COMPOSITE



We Athi kesavan and Harish muthuselvan have developed a study focuses on the development of biodegradable PLA/PEG blend films reinforced with nano boron nitride (NBN) using chloroform as a solvent. The work aims to overcome inherent limitations of PLA, such as brittleness and low ductility, by incorporating PEG as a plasticizer and NBN as a reinforcing agent. Optimization of PEG concentration, molecular weight, and NBN dispersion is carried out. The films are characterized for mechanical, thermal, and barrier properties, highlighting their potential in sustainable food packaging applications.

NEWS LETTER

(2024-2025)

FINAL YEAR PROJECT 2025

Sl.No	RRN	Name of Student	Name of Supervisor	Title of Project
1	210131601002	AneeshKumaran	Dr.S.Shamshath Begum	Study and Characterization of EPDM Rubber
2	210131601007	Gokul T		
3	210131601013	Ramyashree V	Dr.S.Shamshath Begum	Enhanced Bio plastic film: starch modification with filler integration
4	210131602009	PigilamVenkatSai		
5	210131601009	Kalaiselvi M	Dr.J.Shahitha Parveen	Development and Characterization of PLA/PPS using additive manufacturing for car dash boards
6	210131601010	Keerthana P		
7	210131601001	Abdul Rahim Sheriff M		
8	210131601003	Arshad Ahmed P		
9	210131602004	Chandan H M	Dr.J.ShahithaParveen	Development and Characterization of poly (3,4 ethylenedioxythiophene) – CNT/MXene Polyelectrolytes for Lithium – ion Batteries
10	210131602002	Amal V Varghese		
11	210131602003	Bidyalaxmi		
12	210131601011	Logeswari S P	Dr.S.Shamshath Begum	Sustainable Transformation of waste Tires into High Quality new Tires: Circular Economy Approach

NEWS LETTER

(2024-2025)

FINAL YEAR PROJECT 2025

Sl.No	RRN	Name of Student	Name of Supervisor	Title of Project
13	210131602010	Pruthvi D	Mrs.R.Daulath Banu	PLA/LEED Biofilm for Packaging Applications
14	210131602012	Sakthi Surya M		
15	210131602007	Manoj A		
16	210131602013	Shashank Raj S M	Mrs.R.Daulath Banu	Development and Characterization of Epoxy Coating for Anti-Corrosion Applications
17	210131601016	ShaikThalha		
18	210131602001	Akash V		
19	210131601015	Manoj P V	Dr.S.Shamshath Begum	Enhancing Tire Mileage and Performance Evaluation on a Laboratory scale using LAT 100
20	210131602006	Keerthivasan	Dr.Basanta Kumar Behera	Elimination of Foreign Object Debris (FOD) for Automotive Hose Manufacturing Process
21	210131602011	Rajasundar		
22	210131601014	Amjath Khan J	Dr.Basanta Kumar Behera	Studies on the Mechanical Properties of ABS/rice starch/basalt fiber hybrid composites prepared by 3D Printing Technique
23	210131601012	Mohammed Ashfack K I		
24	210131601006	Daniel C G Jospher		
25	210131602008	Mayalakshmi Devi Hijam		
26	210131602005	Chandu H N		

NEWS LETTER (2024-2025)

PLACEMENT 2025

Placement (Batch 2021-2025)



Abdul Rahim Sheriff. M

motherson  Sriperumbudur,
Kanchipuram



Daniel C G Jospher

  Polar Polaris
Honor



Gokul. T

 Changalpattu



Mohamed Ashfack. K.I

motherson  Sriperumbudur,
Kanchipuram



Amjath Khan. J

  Jester
Puducherry



Manoj. P.V

 Mumbai



Akash. V

  Polar
Hasur



Chandan. H. M

motherson  Sriperumbudur,
Kanchipuram



Keerthivasan. V. R

 Madurai



Pruthvi. D

 Sriperumbudur,
Kanchipuram



Raja Sundar. B

motherson  Sriperumbudur,
Kanchipuram



Sakthi Surya. M

 Changalpattu

NEWS LETTER (2024-2025)

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Assistant Professor

Student Co-ordinators



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Y Josuva A



Mr. Gladwin J



Ms. Lekashree

Final Year (2022-2026 Batch)