SciTech Chronicles

WOXSEN UNIVERSITY

SCHOOL OF TECHNOLOGY & SCIENCES

NEWSLETTER

SEPTEMBER- 2025

Message

"REMEMBER, LEADERSHIP IS NOT JUST ABOUT ACHIEVING GOALS; IT'S ABOUT INSPIRING OTHERS TO ACHIEVE THEM TOGETHER. BY BLENDING THE WISDOM OF THE PAST WITH THE REALITIES OF THE PRESENT, LEADERS CAN NAVIGATE THE COMPLEXITIES OF THE MODERN WORLD AND CREATE LASTING IMPACT."

-Dr. Raul V. Rodriguez
Vice-President
Woxsen University

"I BELIEVE THAT EDUCATION IS NOT MERELY THE ACQUISITION OF KNOWLEDGE, BUT THE CULTIVATION OF WISDOM. WE WILL STRIVE TO CREATE A HOLISTIC LEARNING EXPERIENCE THAT FOSTERS INTELLECTUAL CURIOSITY, ETHICAL CONSCIOUSNESS, AND CULTURAL SENSITIVITY. BY PROVIDING OPPORTUNITIES FOR EXPERIENTIAL LEARNING, MENTORSHIP, AND COMMUNITY ENGAGEMENT, WE WILL EQUIP OUR STUDENTS WITH THE SKILLS AND VALUES NEEDED TO SUCCEED IN AN EVER-EVOLVING WORLD."

-Dr. Uma Ananda
Vice Chancellor
Woxsen University

Message

"IN MY SCHOOL OF TECHNOLOGY IT IS NOT JUST ABOUT THE CUTTING-EDGE LABS WITH THE LATEST INFRASTRUCTURE BUT THE ENVIRONMENT AND THE MENTORS AMONG THE FACULTY."

-Dr. Peplluis Esteva de la Rosa
Executive Dean
School of Technology

"AS DEAN OF THE SCHOOL OF SCIENCES, I'M PROUD OF OUR STUDENTS AND FACULTY FOR THEIR HARD WORK. OUR LABS ARE HELPING DRIVE EXCITING RESEARCH AND HANDS-ON LEARNING. I LOOK FORWARD TO THE CONTINUED SUCCESS OF OUR COMMUNITY."

-Dr. Daya Shankar
Dean
School of Sciences

Table of Contents

SCIENCE AND TECHNOLOGY NEWS

Deeksharambh 2025–2029 : “700+ new junior scholars start their BTech journey. The future awaits.” - Dr. Raul Rodriguez

The Deeksharambh Student Orientation Program for the B.Tech and BCA 2025–2029 cohort at Woxsen University’s School of Technology was held on September 1 and 2, 2025. To ensure that all students received the full orientation experience, the batch was divided into Group A and Group B. On the first day, Group A attended sessions in the Admin Block, while Group B took part in activities at the Sports Complex; on the second day, the groups swapped venues, allowing every student to participate in all sessions and interactive events.

Day 1: 1st September 2025 (Monday)

The programme began with a Welcome March from the Library to the Admin Block at 9:00 AM, where participants gathered for an assembly. The Deeksharambh (DA) Team delivered a warm welcome, leading into a Lamp Lighting Ceremony that officially inaugurated the proceedings.

Vice President Dr. Raul Villamarin Rodriguez addressed the new entrants, motivating them to aim high and inspiring them to pursue ambitious goals throughout their academic journey. Vice Chancellor Prof. Uma Ananda Dagnino González then extended encouragement and guidance to the students.

Following this, an energetic and engaging speech was delivered by Executive Dean Prof. Pep Lluis Esteva, who emphasized the value of community at Woxsen. He concluded by inviting students to take their first step into the professional world, prompting them to scan a QR code and connect with him on LinkedIn, symbolizing their entry into the Woxsen network.

The Chief Guest, Shri Anwarul Hoda (Retired IPS, Former DGP Andhra Pradesh), then delivered his address, after which top academic performers were celebrated during the "Shining Stars of SOT" prize distribution.

Later in the morning, campus resources, services, security, and discipline procedures were introduced by Mr. Manoj Moorjani, Head of Facilities & Accommodation, and Mr. Shashi Kant Upadhyay, Director Campus Operations & Security.

Distinguished guests Mr. Ramesh Paturi (Managing Director, PwC) and Mr. Daisuke Tanji (Founder CEO, Indobox India Pvt. Ltd.) addressed the students before the lunch break, offering industry insights and inspiration.

During the post-lunch sessions, students learned about the B.Tech course curriculum and met the faculty team. Prof. Kanishka Tyagi, Assistant Professor, School of Law, sensitized attendees to anti-ragging and POSH guidelines.After this, a sessionon Students' Codes and Guidelines was conducted by the Registrar of Woxsen University.

This was followed by another session on the Bridge and Examination Policy, which was delivered by the Controller of Examinations. Dr. Renu G and Prof. Pavana C also introduced students to future-focused initiatives through Polaris.

After a short break, a special session was led by Prof. Ponnurangam Kumaraguru (IIIT Hyderabad; VP, ACM India; TEDx Speaker), who shared his expertise and captivated the audience.

The day closed with sessions on internationalization (Ms. Priyanka Banik- Head, IR Woxsen University), library resources (Dr. T Rajkumar- Librarian), ERS at Woxsen (Mr. Sudhan Guru- ERS officer), and career opportunities (COTD), ending with a group photograph at 6:00 PM.

Day 2: 2nd September 2025 (Tuesday)

While Group B attended these sessions in the Admin Block, Group A participated in activities at the Sports Complex, ensuring complete exposure for both groups across the two days.

The second day mirrored the structure of the first. After the Welcome March and opening ceremonies, the DA Team and dignitaries including the Vice President and Vice Chancellor set the tempo for the day.

Dean Prof. Pep Lluis Esteva once again energized the audience and welcomed new students to the Woxsen network through his concluding LinkedIn engagement.

SCIENCE AND TECHNOLOGY NEWS

A session on examination policies was conducted by Mr. Sandeep Gundeti, followed by a distinguished lecture by Col. Bhupinder Singh Katal (College of Defense Management). After a short break and a repeat of the academic curriculum and faculty introduction, Mr. Phani Pattamatta (COO, Hyderabad Software Enterprises Association) addressed the gathering, and the Polaris initiative was introduced by Dr. Renu G.

The afternoon saw a student club orientation and demonstration, a session on research and innovation with Dr. Hemachandran K of the AI Research Centre, and further briefings on anti-ragging practices, campus resources, discipline and ERS

In the evening, Dr. Ramesh Kanneganti (AIHS RF & Human-centered AI) was the featured guest, sharing valuable insights before the concluding sessions on internationalization, student guidelines, library resources, and career opportunities.

"Vigayanodaya"- Student Orientation Program- 2025- School of Sciences

The School of Sciences at Woxsen University recently held its Student Orientation Program 2025, welcoming freshmen with a dynamic schedule of academic introductions, enriching talks, and engaging activities. Spanning three days from September 1 to 3, the program commenced with a welcome march, lamp lighting ceremony, and a comprehensive introduction to the School's vision, departments, and faculty led by Dean Dr. Daya Shankar.

Key university figures including the Vice President Dr. Raul Villamarin Rodriguez, and Vice Chancellor Prof. Uma Ananda Dagnino González addressed the students, alongside distinguished guests from both academia and industry. Students benefitted from a diverse lineup of sessions featuring industry insights by Dr. Sunil Dutt Pemmaraju of Novartis and academic wisdom from experts such as Dr. Bartek Czech (Tsinghua University) and Dr. Anukul Jana (TIFR Hyderabad).

SCIENCE AND TECHNOLOGY NEWS

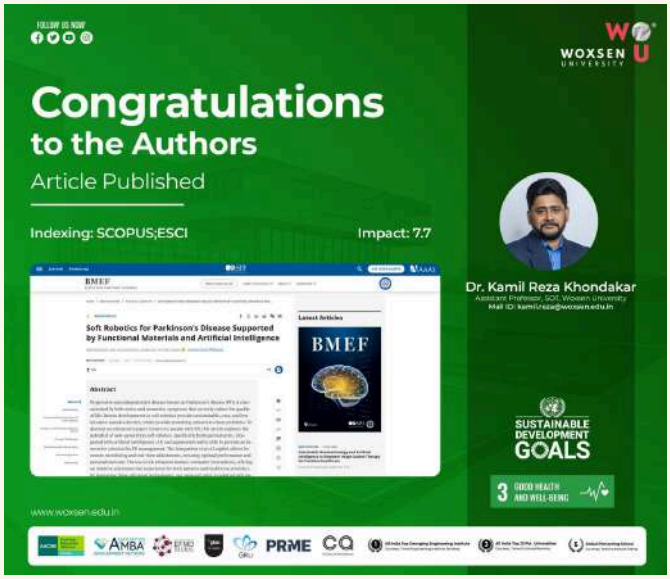
Innovative topics like Metaverse and AI were covered by Dr. Hemachandran K, Director of Woxsen's AI Research Center, broadening students' perspectives on cutting-edge technologies. The schedule also included introductions to campus security, facilities, wellness programs, and library resources, ensuring students were well informed about the supportive infrastructure available to them.

The orientation program also provided students with detailed insights into academic regulations, examination procedures, and campus code of conduct through sessions led by key administrative officials such as the Controller of Examinations, Mr. Sandeep Gundeti, and Registrar Prof. Abhijit Shirodkar. These briefings helped students understand the expectations and standards upheld by the University, laying a strong foundation for their academic journey at Woxsen.

Holistic development was emphasized through yoga, sports activities, mentor interactions, and student-centric initiatives like corporate alignment and wellness center sessions. These efforts aimed to foster a balanced academic and social environment, encouraging students to set aspirations and actively participate in campus life. Meaningful talks on care, discipline, and anti-ragging by professionals such as Dr. Srikar Thota and Dr. Sreelatha Annamaneni reinforced the community values and safety protocols at Woxsen.

The final day saw recognition of academic excellence with medal distributions and felicitations, alongside inspiring addresses by Vice President Dr. Raul Villamarin Rodriguez and guest of honor Shri Vikash Vaibhav, IPS. The orientation concluded with an introduction to the student council and clubs, motivating students to engage in leadership and collaborative opportunities throughout their academic journey.

FACULTY ACHIEVEMENTS

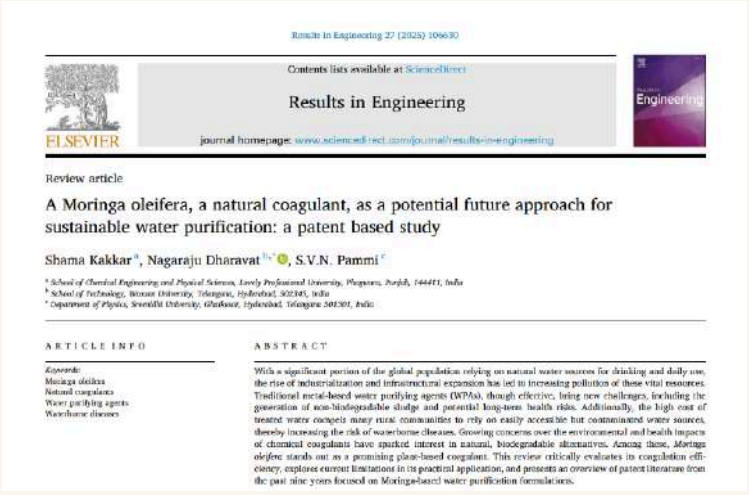


Dr. Kamil Reza Khondakar

Assistant Professor - School of Technology, published an article on Soft Robotics for Parkinson's Disease supported by Functional Materials and Artificial Intelligence.

Prof. Amogh Deshmukh

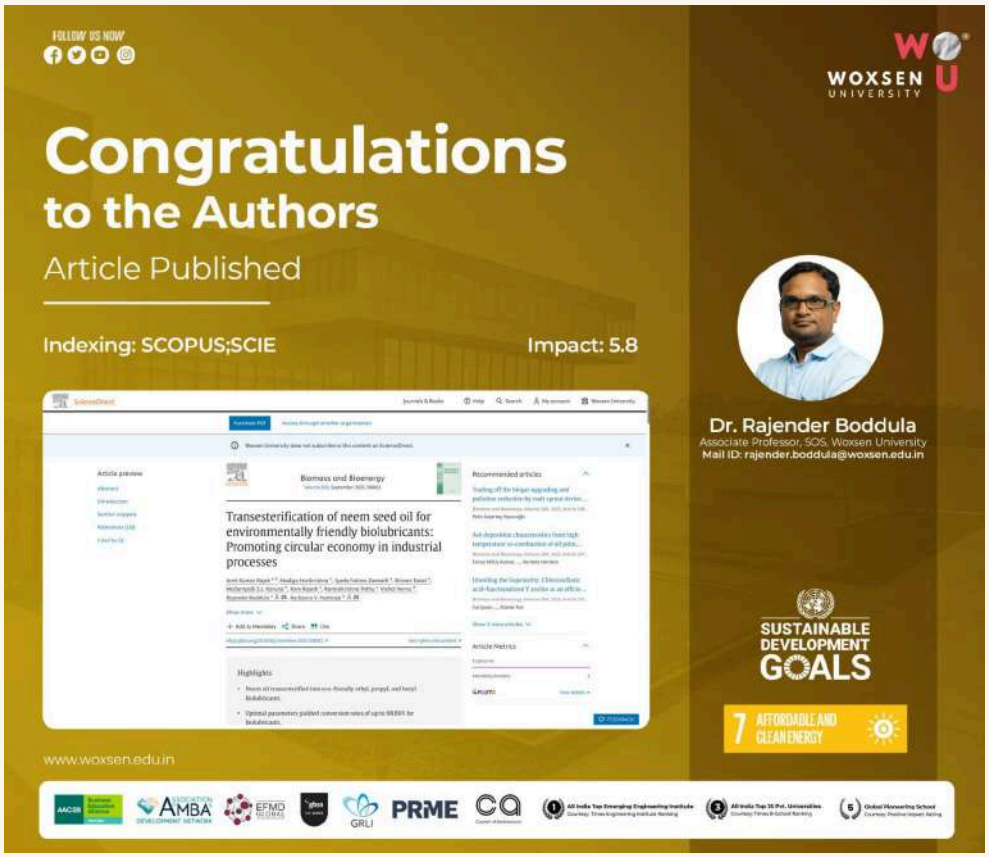
Assistant professor - School of Technology, published a conference paper titled Advanced approaches for malware detection in IoT Network: A Comprehensive Evaluation.



Dr. Dharavat Nagaraju

Associate Professor - School of Technology published an article on A Moringa oleifera, a natural coagulate, as a potential future approach for sustainable water purification: a patent based study. Journal : Results in Engineering.

FACULTY ACHIEVEMENTS



Dr. Rajender Boddula
Associate Professor - School of Science published an article "Transesterification of neem seed oil for environmentally friendly bio lubricants: Promoting circular economy in industrial process" in Biomass and Bioenergy Journal .

Dr. Vishal Anand
Assistant Professor - School of Science published an article "Advances in bio electrochemical constructed wetlands for clean water and green energy" in Sustainable Energy Technologies and Assessments Journal.


Sustainable Energy Technologies and Assessments 82 (2026) 104536

Contents lists available at ScienceDirect

Sustainable Energy Technologies and Assessments

journal homepage: www.elsevier.com/locate/seta

Review article

Advances in bioelectrochemical constructed wetlands for clean water and green energy

Manoj Kumar [a], Naveen Chand [b,*], Harshit Tiwari [b], Vishal Anand [c], Sanjeev Kumar Prajapati [b,*], Brijesh Kumar Yadav [a], Asheesh Kumar Yadav [d]

[a] Department of Hydrology, Indian Institute of Technology Roorkee, Roorkee, Uttarakhand 247667, India
[b] Environment and Biofuel Research Laboratory, Department of Hydro and Renewable Energy (HRED), Indian Institute of Technology Roorkee, Roorkee, Uttarakhand 247667, India
[c] School of Science, Biotechnology Department, Woxsen University, Hyderabad 502345, India
[d] Environment and Sustainability Department, CSIR-Institute of Minerals & Materials Technology, Acharya Vihar, Bhubaneswar 751 013 Odisha, India

ARTICLE INFO

Keywords:
Bioelectrochemical systems
Clean energy
Constructed wetlands
Wastewater treatment
Self-sustaining technology

ABSTRACT

Self-sustaining and eco-friendly technologies for wastewater treatment are crucial for promoting sustainable development goals and advancing circular economy approach. Therefore, here we review the popular nature-based wastewater treatment systems i.e., constructed wetlands (CWs). The review focuses on recent advancement in the field of CWs, with main focus on bio-electrochemical systems (BES) integration with constructed wetlands (BES-CWs). The integration of CWs with BES provides a self-sustaining and an eco-friendly option for sustainable wastewater treatment and energy production. However, to date pilot scale applicability of these systems has been limited due to low energy out-put. Hence, in this review we discuss BES-CWs systems, evolution and advancement, highlighting the research advancements over the years. The discussion includes advancement in design configuration, filter media used, electrode material and microbial communities which influence the performance of the BES-CWs system and subsequently highlight limiting factors for pilot scale applicability. The review findings reveal that BES-CWs systems have strong potential for wastewater treatment, but special attention to the design, substrate and electrode material is required to enhance the energy out-put. The, review analysis will assist in future research work and offer new avenues for optimization of BES-CWs for wastewater treatment and energy production.

STUDENTS' ACHIEVEMENTS

The month of August 2025 has been marked by commendable student achievements across diverse domains ranging from cutting-edge technologies to impactful social contributions.

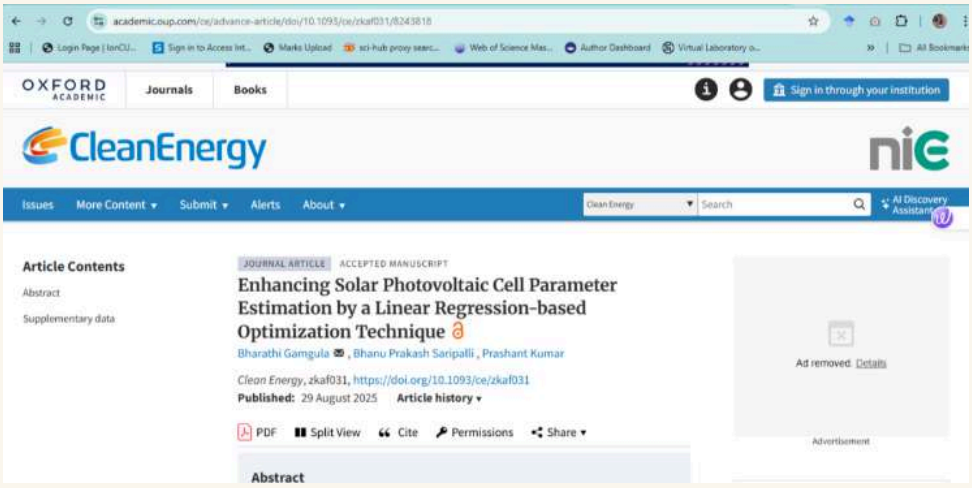
Geethika, has received a certificate of appreciation for her participation in the Code for Bharat Season – 2 Hackathon conducted from 18th July 2025 to 2nd August 2025, organized by Tech Masters India.

Harshith received a certificate of achievement for active participation in the Essential Life Skills Course organized by COTD, Woxsen University, Hyderabad.

Bharkavi PM
has received a Certificate of Participation for the Biofront Symposium.

Divya has received a Certificate of completion for CodeAlpha Virtual Internship Program in Machine Learning for the duration from 1st July 2025 to 30th July 2025 from CodeAlpha.

Rishita Lakshmi received a certificate of achievement for active participation in the Essential Life Skills Course organized by COTD, Woxsen University, Hyderabad.



Bharathi Bharathi received a research paper publication on “Enhancing Solar Photovoltaic Cell Parameter Estimation by a Linear Regression-based Optimization Technique” in Clean Energy – Oxford Academic Publishers, Scopus Q2

PUZZLE TIME !!

The Quantum Safe Lock

Background

At Woxsen's newly launched Quantum Computing Lab, a secure locker contains prototype designs of a post-quantum encryption chip. The locker can only be opened with a 4-digit code. Luckily, fragments of the code have been left behind in the system logs by the researcher who set it up.

Clue:

1. The code is a 4-digit number with no repeating digits.
2. The sum of all digits is 20.
3. The difference between the first two digits forms a prime number.
4. The last two digits form a number divisible by 4.
5. The full 4-digit code is divisible by 9.

Your Task:

Can you crack the code and open the locker before someone else does?

Got it? Or think you do? Hold tight the vault opens in the next edition of SciTech Chronicles.

ANSWERS FOR THE PREVIOUS PUZZLE

Possible 6-digit access codes

A+B+C = D+E+F
A×F = 24 (so (A,F) ∈ {(3,8),(4,6),(6,4),(8,3)})
The middle two digits C and D form a two-digit prime (10·C + D is prime)
The whole number is divisible by 11 (equivalently (A+C+E) − (B+D+F) is a multiple of 11)
Result: there is not a single unique code — there are 70 6-digit numbers that satisfy all four rules. (So additional/hidden constraints would be required to pick a single code.)

To get a unique code we need one more constraint (examples):
“All digits are unique.”
“No digit repeats more than once.”
“The code contains no 0s.”
“The third and fourth digits form a specific prime (e.g., 61).”
“The code was set to be the smallest (or largest) possible satisfying number.”

Editor's Note

September 2025 Edition

This September, SCI-TECH proudly welcomes our new cohort of 700+ students to the Woxsen family! With the successful orientation behind us, you now stand at the threshold of an exciting journey filled with discovery, innovation, and growth. We wish you all the very best as you begin this new chapter, and encourage you to make the most of the vibrant facilities, opportunities, and resources available across our campus.

SCI-TECH is not just a magazine - it is your platform. As you explore, experiment, and engage, we invite you to share your experiences, ideas, and findings with us. Whether it's a news update, a creative thought, an inspiring story, or a breakthrough in research and data, your voice can contribute to shaping the narrative of Woxsen's scientific and technological spirit.

Let this be the beginning of your journey as both learners and contributors, making SCI-TECH a reflection of the energy and brilliance of our student community.

Editor's Note

We invite junior scholars and faculty to share your stories, achievements, and ideas for upcoming editions of SciTech Chronicles. Whether it's a breakthrough project, a global experience, or a classroom innovation your journey can inspire others. Let's make this platform a true voice of our School.

Big or small, every step you take shapes our story. Let's tell it together in SciTech Chronicles.Here's to a month of inspiration, collaboration, and fresh perspectives!

Editor-in-Chief
SciTech Chronicles
Woxsen University

Prof. Meher Gayatri
Assistant Professor
Editor-in-Chief

Dr. Anusree B
Assistant Professor
Senior Editor

Miss. Sreeya Chatterjee
B.Tech'27
Managing Editor