



NAST- MONTHLY NEWSLETTER

March 2025



**S&T
Activities**

**Important
Events &
Meetings**

**Specialized
Research
Center**

**Promotional
Activities**

Appointment of Research Assistant (RA) and Assistant Research Fellow (ARF)

For the fiscal year 2081/82, two Research Assistants and five Assistant Research Fellows were appointed. These appointments were made based on established selection criteria and the final evaluation conducted by the evaluation committee. The appointees officially joined the office on 2nd March, 2025. The list of appointed RA and ARF for 2081/82:

S.N.	Name	Faculty/Division	Position
1.	<i>Sajana Devkota</i>	<i>Promotion</i>	<i>RA</i>
2.	<i>Nikunja Ghimire</i>	<i>Technology</i>	
3.	<i>Damodar Neupane</i>	<i>Physics</i>	<i>ARF</i>
4.	<i>Sabita Shrestha</i>	<i>Chemistry</i>	
5.	<i>Hari Achhami</i>	<i>Microbiology</i>	
6.	<i>Pashupati Adhikari</i>	<i>Environment</i>	
7.	<i>Suraj Prasad Bista</i>	<i>Environment</i>	

Guest Lecture Program



A special guest lecture program by the Faculty of Science was organized on March 4, 2025, at NAST. The program featured Prof. Dr. Barry J. Pogson from the Division of Plant Sciences, Australian National University. Dr. Pogson, a renowned expert in plant biology and crop science, was invited to share his research and perspectives on the future of agriculture in the context of global climate change.

In his presentation on “New Breeding Technologies for Crop Improvement: Opportunities and Constrains”, Dr. Pogson provided valuable insights into recent studies on genetically modified organisms (GMOs) and traditional breeding methods, highlighting the urgent need to modernize these techniques through the use of advanced technologies. He emphasized the increasing vulnerability of high-altitude agriculture to climate change, particularly in

regions such as the Himalayas. As seasonal patterns shift, rivers no longer flow consistently, and glacial melt has made water supplies less predictable. Rising temperatures are pushing traditional crops-which once thrived at elevations of 2000–3000 meters-to migrate higher. However, due to unpredictable snowfall and changing weather patterns, relocating crops is not a simple solution. To address these challenges, certain plant species, including medicinal ones, may need to be cultivated in entirely new regions.



Dr. Pogson stressed the importance of improving our understanding of both natural ecosystems and managed farming systems. For countries like Nepal, this knowledge is vital to maintain food security and ensure long-term agricultural sustainability in the face of accelerating climate change. Dr. Rabindra Prasad Dhakal, Secretary of NAST, highlighted the widespread reluctance among farmers in Nepal and other developing countries to adopt GMOs. This hesitation stems from concerns about seed sovereignty, affordability, and the perceived control of biotechnology by private industries. This issue is particularly acute in regions where regulatory frameworks are

either underdeveloped or significantly shaped by corporate interests.

Training for NAST Staff -members



The Nepal Academy of Science and Technology (NAST) organized a training program at its Information Access Center (IAC) from March 5-10, 2025. The event took place in the ICT Complex room of the academy's premises. The training program was designed with the core objective of enhancing the knowledge, skills, and motivation of staff members from various faculties and divisions within NAST. The program aimed to improve participant's capacity by effectively

utilizing digital tools and information technologies relevant to their roles.

Science Dialogue Program

The Nepal Academy of Science and Technology (NAST) has long been dedicated to advancing the development of science and technology in Nepal. In line with this mission, the Promotion Division of NAST regularly organizes Science Dialogue Interaction Programs. These programs aim to provide crucial information on various scientific and technological issues and to seek solutions to address these challenges. In this connection, Science Dialogue focused on the theme “Floral: Waste to Worth” was organized on 11th March, 2025. The event aimed to explore innovative ways to manage floral waste and turn it into valuable resources with a focus on entrepreneurship, sustainability and policy development. The event commenced with



a welcome address by Dr. Rabindra Prasad Dhakal, Secretary of NAST. Ms. Luna Vajra, Chief of the Promotion and Publicity Division, NAST, also addressed the gathering, highlighting the significance of the Science Dialogue program and stressing its necessity in promoting awareness and finding solutions to contemporary challenges in science and technology.

The Technical session was moderated by Dr. Ram Chandra Poudel, Senior Scientific Officer at NAST, and featured four expert presentations.

1. Mr. Rabindra Jung Thapa, Chief, Floriculture Development Center, presented his findings on “Status of Flower Cultivation in Nepal”.
2. Dr. Umeed Pun, Past President, Nepal Horticulture Society, presented his findings on “Status of Flower consumption and wastage in Nepal”.
3. Ms. Sushama Sharma, Founder of Phool-prasad, presented on “Fostering Entrepreneurship on Floral Waste”.
4. Dr. Sajan Lal Shyaula, Chief Scientific Officer, NAST presented his findings on “Development and Design of Extraction Protocol for Industrial Raw Products from Marigold”.

Prof. Dr. Dilip Subba, Vice Chancellor of NAST, delivered the inaugural remarks, describing the theme of the program as both commendable and highly relevant from practical and environmental

perspectives. He praised the efforts of individuals and organizations engaged in projects and entrepreneurial initiatives aimed at reducing waste generated from the agricultural sector and beyond. Dr. Subba emphasized the importance of such research and innovation being widely disseminated to the public, policymakers, and relevant stakeholders. His remarks highlighted the critical role of awareness and scientific dialogue in driving sustainable development.

Hybrid Rocket Engine Test Successfully Conducted



The Space Research Centre (SRC) under Nepal Academy of Science and Technology (NAST) is making significant strides in developing Nepal's first suborbital hybrid rocket, targeting a test launch for late 2025. SRC aims to strengthen Nepal's role in the international space community by developing indigenous space technologies, conducting research, and educating future space professionals.

SRC, the nation's leading institution for space science and technology, is committed to

elevating Nepal's position in the global space community. The suborbital launch initiative not only symbolizes a new chapter in Nepalese aerospace exploration but also aligns with NAST's broader mission to support national development through scientific excellence and technological advancement. A dedicated team under the MACH24 Orbitals initiative is currently conducting rigorous testing of the hybrid rocket engine. The latest successful engine test was conducted on 18th March, 2025, marking a major technical milestone. The suborbital rocket is designed to travel up to 100 kilometers, reaching the threshold of space.

Research Fellow Program

The Research Fellow Program is a significant initiative designed to harness the expertise of individuals who have completed their PhDs in Science and Technology. The program aims to promote research and development across Nepal by providing a supportive platform for scientists and technologists to conduct impactful research. A total of selected seven presentations were delivered by applicants, on 19th March 2025, showcasing a range of innovative and relevant research proposals among which two will be selected.

S.N.	Name	Proposal
1.	<i>Dr. Gorkha Raj Giri</i>	<i>Medicinal Plant- Based Phytochemicals and Their Applications in Food and Agriculture Based on Ethnobotanical Knowledge</i>
2.	<i>Dr. Indira Pokhrel</i>	<i>Integrating Direct Air Capture Materials with Single-Atom Dimer Electrocatalysts for Generating High Value Products from Air</i>
3.	<i>Dr. Neel Kamal Koju</i>	<i>Heavy Metal Contamination in the Bagmati River Basin, Nepal: Implications for Environment and Public Health</i>
4.	<i>Dr. Neelam Shahi</i>	<i>Surfactants Interaction with some Antibiotics in Aqueous Media</i>
5.	<i>Dr. Ramesh Koirala</i>	<i>Research Related to the High Energy Astronomy at NAST</i>
6.	<i>Dr. Sonam Tamang</i>	<i>Isolation of Yeast Using Wild Plants: An Indigeneous Approach</i>
7.	<i>Dr. Sushil Subedi</i>	<i>Theoritical and Computational Physics</i>

Artificial Intelligence (AI) for Nation's Development

The Nepal Academy of Science and Technology (NAST), in collaboration with the Communication and Information Technology (CIT) Sub-committee, successfully organized a seminar titled “Artificial Intelligence (AI) for Nation's Development” on 20th March, 2025 at the NAST Auditorium Hall.

Dr. Rabindra Prasad Dhakal, Secretary of NAST, highlighted the importance of collaboration between AI experts and policymakers. He emphasized the need for swift action, pointing out Nepal's current position at 109th in the global digital index.



Anil Kumar Dutta, Joint Secretary at the Ministry of Communication and Information Technology (MoCIT), outlined the ongoing government efforts to promote the responsible use of artificial intelligence (AI) in national development. Echoing these sentiments, NAST Academician Dr. Subarna Shakya emphasized AI's practical potential and the need for strategic policy interventions. Prof. Dr. Dilip Subba, Vice-chancellor of NAST, expressed optimism about the seminar's contribution to meaningful policy recommendations. The three presentations during the session gave a clear insight on AI in Nepal.



- Narayan Timilsina (Ministry of Communication and Information Technology) updated Nepal's ongoing AI policy initiatives, outlining key government strategies and frameworks in development.
- Dr. Manoj Shakya (Kathmandu University) demonstrated practical applications of AI across various sectors, emphasizing its transformative impact on industries and public services.
- Dr. Suresh Manandhar (Wiseyak) explored the opportunities and challenges within Nepal's AI ecosystem, highlighting the need for capacity building, infrastructure, and supportive regulation.

The event concluded with closing remarks and expressions of gratitude from Dr. Subarna Shakya, who emphasized the importance of sustained collaboration among government, academia, and industry to advance AI policy and implementation in Nepal. The seminar brought together leading voices in science, technology, and policy to discuss the responsible integration of AI into Nepal's development framework.

Appointment of Assistant Research Fellow (ARF)

For the fiscal year 2081/82, an additional two Assistant Research Fellows (ARFs) were appointed. These appointments were made based on selection criteria and final evaluation by the evaluation committee, with the official appointments taking place on 23rd March, 2025.

S.N.	Name	Faculty/Division	Position
1.	Anupama Wasti	Chemistry	ARF
2.	Suja Maharjan	Biotechnology	

Training on Solar Photovoltaics, Space and Cyber Security and Networking

The Mobile Information Access Center under Faculty of Technology, NAST has been organizing activities in mobile IAC in many parts of the country, covering all seven provinces of Nepal to impart training on relevant IT topics. The trainees on mobile IAC ranged from students of Schools to high-ranking Police Officers of Nepal. To provide digital literacy training for interested people in rural regions of each province that commonly lack basic ICT infrastructure, a mobile IAC is bringing different type of basic training for youths to develop their digital skills.



A training program on “Solar Photovoltaics and Space Technology and Cyber Security and Networking” was organized from March 25-27, 2025 at the Rajshri Janak University located in Janakpur, Madhesh Province. More than 80 students of B.Sc. CSIT, and BCA were trained on “Cyber security and Networking” through mobile IAC Bus.



The trainers included, Pradeep Dhodari, System Administration from NAST, Er. Hariram Shrestha, Head, Space Research Center, NAST, Dr. Suresh Kumar Dhungel, Head, Faculty of Technology and Er. Manoj Kumar Shah, Technical Officer, NAST. The closing ceremony of the training program was attended by Prof. Dr. Amar Yadav, Vice Chancellor, Rajshri Janak University.

Emerging PhD Grant

The PhD grant is a significant initiative aimed at leveraging the knowledge, experience and skills of researchers who are in the process of their PhD journey in Science and Technology to foster research and development in Nepal. This program facilitated by the Nepal Academy of Science and Technology (NAST), offers a platform for scientists and technologists to carry out research and utilize lab facilities. For the fiscal year 2081/82, the interview and presentation were held on 26th March, 2025.

S.N.	Name	PhD Title
1.	Abhishek Shrestha	<i>Investigation of Agro-morphological, Physiological, Biochemical and Catabolic Traits under Drought and Heat Stress and Mitigation Strategies for Pustainable production of Barley Landraces</i>
2.	Bhawana Shrestha	<i>Effect of a Mobile Health Intervention on Birth Outcomes and Infant Health in a Tertiary Healthcare Facility in Nepal.</i>
3.	Dharma Raj Poudel	<i>Role of Ligands as Potential Candidates to Cure Various Diseases.</i>
4.	Dhruva Babu Subedi	<i>Investigation on the Corrosion Behavior of Stainless Steel Rebar in Simulated Concrete Pore Solution</i>
5.	Joshna Shrestha	<i>Phytochemical Analysis of Selected Medicinal Plants of Nepal for Antimicrobial and Anti-cancer Activity.</i>
6.	Shailendra Kr. Yadav	<i>Ecological and Social Consequences of Tiger Conservation in Nepal's Terai-Arc Landscape.</i>
7.	Subhadra Joshi	<i>Addressing the Information Divide through Cross-lingual Information Retrieval and Machine Translation: A case Study of Low Resourced vs High Resourced Languages (Nepal-English).</i>
8.	Suman Khanal	<i>Values and Analysis of Kiwi Fruit (<i>Actinidia deliciosa</i>) in Nepal.</i>

Congratulations!!



The NAST family extends its heartfelt congratulations to:

- Dr. Suresh Kumar Dhungel on his appointment as Head of the Faculty of Technology
- Dr. Gana Bajracharya on his appointment as Head of the Faculty of Science



We are proud to celebrate this milestone and are confident that your leadership will inspire continued excellence in research, innovation, and academic growth. Wishing you both great success in your new roles.

A Proud Moment for the NAST Family!



We extend our warmest congratulations to Dr. Tista Prasai Joshi for being featured in “100 People to Watch 2025” by Business 360 magazine.

This prestigious recognition highlights distinguished leaders and professionals who have made significant contributions to the advancement of key sectors in Nepal. Dr. Joshi’s impactful work continues to inspire and elevate the scientific community.

We are proud of your achievements and look forward to your continued success!

NAST- Specialized Research Center



Third Meeting of the Central Steering Committee of the Specialized Research

The third meeting of the Central Steering Committee of the Specialized Research Center under the Nepal Academy of Science and Technology (NAST) was held on 16th March, 2025 in the presence of Hon. Minister Bidya Bhattarai, Minister of Education Science & Technology and President of the Central Steering Committee. The meeting focused on reviewing the budget expenditure for the fiscal year 2080/81, addressing the budget deficit in the current financial year, and discussing the upcoming work plan.

The Minister was informed that the Specialized Research Center is currently active in six provinces, with work in Karnali Province scheduled to commence shortly. She emphasized the importance of aligning the center's efforts with public aspirations, encouraging the inclusion of young scientists and technicians, and instructed the committee to submit a concrete program and detailed budget plan. NAST Vice-chancellor Prof. Dr. Dilip Subba highlighted the need to transform challenges into opportunities for the success of these centers. Likewise, NAST Secretary Dr. Rabindra Prasad Dhakal explained the constraints posed by limited funding and appealed to the government for increased budget allocation in the upcoming fiscal year. The meeting marked a significant step toward strengthening the role of specialized research centers in national scientific development.

NAST Audio Visual Program

NAST's Weekly Science & Technology Broadcasts on Radio and Television. The Nepal Academy of Science and Technology (NAST) runs dedicated weekly audio and visual programs on Science and Technology to promote scientific literacy and public engagement.

Radio Program (Audio)

- Station: Kantipur FM (96.1 MHz)
- Schedule: Every Saturday, 7:30 AM – 8:30 AM

Television Program (Visual)

- Channel: Nepal Television
- Schedule: Every Saturday, 5:00 PM – 5:30 PM

Each episode, lasting 30 minutes, is thoughtfully divided into three engaging segments:

1. Audience Q & A

Answers to listener-submitted questions on various science and technology topics, addressing curiosity and encouraging public dialogue.

2. Science Documentary

A visual journey into current scientific developments, national programs, activities, and indigenous technologies of Nepal.

3. Expert Interview

In-depth conversations with scientists and technologists, spotlighting their ongoing research and contributions.

These programs cater to a diverse audience, including students, members of both the scientific and general community, and anyone curious about the role of science in everyday life.

List of Radio Program

S.N.	Date	Segment 1	Segment 2
1.	March 01, 2025	<i>How does a ship float in water while the nails it's made from sink ?</i>	<i>Report on the Workshop and Training on Global Navigation Satellite System</i>
2.	March 08, 2025	<i>Information on World Wildlife Day 2025</i>	<i>Report on One-Day Workshop on Ecosystem based Adaptation (Eba) on Urban Areas of Nepal</i>
3.	March 15, 2025	<i>Talk Program on Genetically Modified Organisms (GMO) and Gene Editing with Prof. J. Pogson, Division of Plant Species, Australian National University</i>	<i>Talk Program with Eng. Roshan Pandey on Training on Small Hydro organized by NAST in collaboration with Manmohan Technical University</i>
4.	March 22, 2025	<i>1. What is smoke? 2. Can vegetation be grown without soil?</i>	<i>A Report on Science Dialogue "Floral: Waste to Worth"</i>
5.	March 29, 2025	<i>Talk Program with Eng. Hariram Shrestha on Receiving the Prime Minister National Award 2081</i>	<i>Seminar Report on Artificial Intelligence for Nations Development</i>

List of Television Program

S.N	Program Date	Program Title
1.	March 01, 2025	1. Report on Workshop and Training on GNSS 2. Report on Fall Armyworm and talk with Expert Prof. Dr. Aananda Shova Tamrakar
2.	March 08, 2025	1. Report on One-Day Workshop on Ecosystem Based Adaptation (Eba) on Urban Areas of Nepal
3.	March 15, 2025	1. Report on Talk program with Prof. J. Pogson, Division of Plant Species, Australian National University 2. Report on the Importance of Sprouted Beans for Health
4.	March 22, 2025	1. Report on Science Dialogue program “Floral: Waste to Worth” 2. Report on Mechanized Grinding stone prepared by Dr. Hari Bahadur Dalami, Associate Professor, Pulchowk Engineering Campus
5.	March 29, 2025	1. Talk program with Er. Hariram Shrestha, Technical Officer, NAST 2. Seminar Report on Artificial Intelligence for Nations Development

Participation of Executives and Staff-members

S.N	Name	Program Date/ Venue	Theme	Organizer
1.	<i>Dr. Rabindra Prasad Dhakal, Secretary, NAST</i>	<i>March 10-11, 2025, Kathmandu</i>	<i>11th Nepal Geological Congress (NGC-XI)</i>	<i>Nepal Geological Society</i>
2.	<i>Dr. Sajan Lal Shyaula Dr. Tista Prasai Joshi Dr. Lok Ranjan Bhatt and Assistant Research Fellows of NAST</i>	<i>March 19-21, 2025, Pokhara</i>	<i>4th Conference on Recent Trends in Science and Technology and Innovation-2025</i>	<i>Pokhara University</i>
3.	<i>Dr. Rabindra Prasad Dhakal, Secretary, NAST</i>	<i>March 27-29, Hotel Himalaya, Lalitpur</i>	<i>2nd International Conference on Advanced Functional Materials 2025 Kathmandu</i>	<i>Nepal Materials Science Society</i>

Edited by:

Luna Vajra, Chief, Promotion and Publicity Division, NAST

Prepared by:

Naina Byanjankar, Assistant Research Fellow, Promotion and Publicity Division, NAST

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TO:

**S &T Promotion and Publicity Division,
Nepal Academy of Science and Technology (NAST)
Khumaltar, Lalitpur
GPO Box: 3323, Lalitpur, Nepal
Telephone: 01- 5253717, 5253720
Email: promotion@nast.org.np, scitechawareness@gmail.com
Fax: +977-1-5253713
Visit us: <https://nast.org.np>**