



NAST- MONTHLY NEWSLETTER

January 2025



**S&T
Activities**

**Important
Events &
Meetings**

**Specialized
Research
Center**

**Promotional
Activities**

Information and Communication Technology (ICT) Training at NAST

The Nepal Academy of Science and Technology (NAST) has established the Information Access Center (IAC) and the Electronic Database and Information Center (EDIC) to promote information and communication technology (ICT) and provide access to information and technology across Nepal. The IAC comprises two main components:

1. Fixed Infrastructure is located on the first floor of the Technology Building of NAST. This facility offers various ICT services, including training, workshops, seminars, and video conferencing.
2. The mobile IAC unit is designed to deliver ICT training to remote and rural areas in an Mobile Information Access Center (IAC) set on a mobile bus.

On January 9, 2025 the Information Access Center (IAC) of the Nepal Academy of Science and Technology (NAST) conducted an ICT training session at NAST. 38 students from Ratna Rajya Secondary School and Ellaine Memorial School attended this training. The initiative aligns with NAST's goal to bridge the digital gap and enhance digital literacy nationwide by providing hands-on experience with modern ICT tools and resources. Furthermore, NAST plans to expand the reach of the Mobile IAC by deploying the service to every possible district in Nepal.



Communicating Biological Invasions to Communities

A seminar on 'Communicating Biological Invasions to Communities' was held on 12th January, Sunday, at NAST Auditorium Hall, with the aim to encourage cooperation with environmental journalists. The Life Science Sub-committee of the Academy organized the event in cooperation with the Ministry of Forests and Environment and the Forest Research and Training Centre (FRTC). The program was graced by Dr. Ram Krishna Shrestha, Joint Secretary, Ministry of Agriculture and Livestock Development and Dr. Rajendra K.C, Director General of FRTC.

The Vice-chancellor and the Chairman of the program, Prof. Dr. Dilip Subba, stated that he was hopeful that the conference would improve



communication between media and scientists, and raise awareness of biological invasions at the local level. Dr. Rabindra Prasad Dhakal, Secretary of NAST, highlighted the growing challenges of biological invasions and carbon sequestration, citing threats like Tibetan wolves decimating yak populations in Lobuche and Khumbu, and wild elephant encroachment in Jhapa and Morang. He further informed that NAST, in collaboration with the Forest Research Centre, has launched a community-level program to manage invasive species and carbon sequestration.

The technical and group discussions were chaired by Dr. Siddha Bajra Bajracharya, Associate Academician of NAST encompassing presentations:

- Ramesh Bhusal from the Earth Journalism Network and, Nepal and South Asia Program Manager, presented on Environmental Journalism: Implications for Policy and Management.
- Prof. Dr. Bharat Babu Shrestha, Professor, Central Department of Botany, Tribhuvan University, presented on Invasive Alien Species: Global Scenario and Nepal Context.
- Sunita Ulak, Under Secretary of FRTC presented on National Invasive Species Management Strategy and Action Plan (draft) and,
- Prof. Dr. Pramod Kumar Jha, Academician of NAST highlighted invasive alien species in Nepal: Current Management Approaches and Future Perspectives.

Bringing together scientists, environmental journalists, and the community is a great way to tackle the complex issue of biological invasions. The seminar focused on integrating scientific research with practical solutions in addressing the multifaceted challenges posed by biological invasions.

Information Technology Training in Bhaktapur Municipality

The Nepal Academy of Science and Technology (NAST) and the Women in Information Technology (WIIT) Group recently collaborated to provide Information Technology Training to community school teachers in Bhaktapur Municipality. This training held from 12 to 17, January 2025 (Poush 28 to Magh 4), utilized the Mobile Information Access Centre, a mobile bus with ICT facility, a support from the Korean government.

During the event, Deputy Mayor of Bhaktapur Municipality, Rajani Joshi, emphasized the significance of information technology in the 21st century and its practical applications. The trainers included, NAST Associate Academician Engineer Gunakeshari Pradhan, and Deputy Director of the Nepal Telecommunication Authority Ms. Roja Kiran Basukala, and Pradeep Dhodari, System Administration from



NAST. This initiative aligns with NAST's goal to enhance digital literacy across Nepal.

The Mobile IAC is designed to take ICT resources to various communities, aiming to bridge the digital gap and promote technological advancement, nationwide. The training also highlights the active role of organizations like WIIT in empowering women and promoting gender diversity in Nepal's ICT sector. WIIT is dedicated to strengthening the engagement of women and girls in technology, working towards a more inclusive digital future. Overall, this collaboration reflects a concerted effort to improve digital literacy and technological access, ensuring that educators and communities are well-equipped to navigate and contribute to the digital age.

27th Earthquake Safety Day

The Nepal Academy of Science and Technology (NAST) commemorated the 27th Earthquake Safety Day on 15th January, 2025 (Magh 2) led by Dr. Shiba Subedi, a seismologist affiliated with NAST through the Brain Pooling Program Nepal. The celebration included an Earthquake Learning Exhibition, showcasing a variety of educational models about earthquakes. The event presented eight diverse models that examined the various factors contributing to earthquakes, including their causes, the principles of plate tectonics, the scientific study of earthquakes, preparedness initiatives, safety guidelines, the effects of liquefaction, the characteristics of seismic waves, and strategies for pin-pointing earthquake locations with seismometers. An educational game designed to help individuals identify safe areas during an earthquake was also part of the exhibition. The program drew an audience of over 850 participants, consisting of students, educators, and members of the general public from the Kathmandu Valley. Prof. Dr. Dilip Subba, Vice-chancellor, Prof. Dr. Bishal Nath Upreti, Academician, Rabindra Prasad Dhakal, and Dr. Shiba Subedi from NAST, Dr. Lok



Bijaya Adhikari and Dr. Mukunda Bhattarai from the Department of Mines and Geology, and other specialists delivered presentations during the program. Vice-chancellor Prof. Dr. Dilip Subba and Secretary Dr. Rabindra Dhakal emphasized that such initiatives are crucial for enhancing the understanding of earthquakes and raising public awareness within the community.

Paving the Way for Nepal's Space Advancements

The CubeSat Design and Training Workshop, held from January 16 to 20, 2025, at the Nepal Academy of Science and Technology (NAST) in Satdobato, Lalitpur, was a significant milestone in Nepal's burgeoning space sector. Organized by NAST's Space Research Centre (SRC) in collaboration with ORION Space, the workshop aimed to cultivate expertise in CubeSat development among engineering students and space enthusiasts. The event featured a blend of lectures, technical sessions, and hands-on demonstrations led by esteemed space experts.

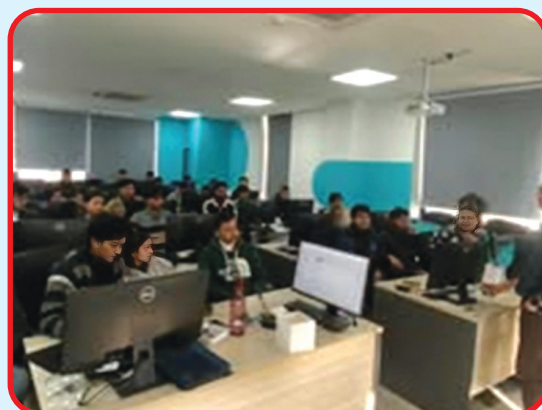
Participants engaged with CUBEEK, an educational satellite model, gaining practical insights into satellite communication, mission design, and data collection techniques.



During the program, Prof. Dr. Dilip Subba, Vice-Chancellor of NAST, emphasized the pivotal role of space technology in Nepal's advancement and lauded the workshop as a step toward global recognition. Dr. Rabindra Prasad Dhakal, NAST Secretary, reaffirmed the institution's commitment to space education and research, emphasizing the importance of building a robust foundation in space technology. Dr. Ishwor Bajracharya, Chief of the Faculty of Technology at NAST, highlighted the necessity of the bridging theoretical knowledge

with practical application, preparing participants for real-world space missions. Engineer Hari Ram Shrestha, Head of the Space Research Centre at NAST and co-developer of Nepal's first satellite, NepaliSat-1, expressed optimism about Nepal's space future and the significance of hands-on workshops in fostering innovation.

The workshop not only provided participants with valuable technical skills it also inspired the next generation of engineers and scientists to actively contribute to Nepal's space exploration endeavors. With a growing interest in satellite technology and space research, NAST is poised to continue such initiatives, working toward establishing a dedicated space program for Nepal.



Campus Network Design Workshop

A two-day “Campus Network Design” Workshop was successfully organized by the Nepal Academy of Science and Technology (NAST) and Nepal Research and Education Network (NREN) on 24th and 25th January (11 and 12 Magh). The workshop was chaired by Dr. Rabindra Prasad Dhakal, Secretary of NAST, who emphasized the importance of robust campus networks in fostering innovation and enhancing learning environments. E. Lochanlal Amatya, Chairman of NREN, also addressed the participants,



highlighting the need for effective network design to benefit both, students and educators. Throughout the workshop, participants engaged in technical sessions and hands-on activities focused on designing, building, operating, and managing campus networks. The training aimed to equip attendees with essential skills to optimize their institutions’ network infrastructures, ensuring efficient coordination with external networks such as Internet Service Providers (ISPs). This initiative underscores NAST and NREN’s commitment to advancing Nepal’s research and education infrastructure, aiming to empower institutions with the necessary tools to build and manage effective campus networks.

Held at NAST’s premises in Khumaltar, the event saw active participation from representatives



of various higher education institutions. After the workshop, certificates were distributed to the participants. Attendees shared positive feedback, expressing that the workshop provided valuable insights and practical skills to enhance their campus networks’ efficiency and reliability. The knowledge gained is expected to contribute significantly to improving academic and research connectivity across Nepal’s educational institutions.

5th Annual General Meeting (AGM)

The 5th Annual General Meeting (AGM) of the Organization for Women in Science for Developing Countries (OWSD) Nepal Chapter concluded successfully on 26 January 2025 (Magh 13), at the Nepal Academy of Science and Technology (NAST). The event was inaugurated by the Honorable Minister for Education, Science, and Technology, Bidya Bhattarai. During the AGM, 14 PhD and Early Career Fellows of the OWSD Nepal Chapter were honored for their contributions and achievements in the field of science. Honorable Minister Bidya Bhattarai emphasized the importance of teamwork, collaboration, and supportive mechanisms to advance scientific development in Nepal, particularly in empowering female scientists. Prof. Dr. Dilip Subba, Vice-chancellor of NAST, concluded the inaugural session by highlighting NAST's role as a collaborative platform for scientific advancement, emphasizing that progress can be achieved through coordination and collaboration among scientists.



The successful conclusion of the 5th AGM underscores the growing commitment to supporting and promoting women scientists in Nepal, fostering an environment conducive to scientific excellence and innovation.

Visit to Space Research Center, NAST

On January 26, 2025 (Magh 13), significant developments unfolded at the Nepal Academy of Science and Technology (NAST) in Khumaltar, Lalitpur, highlighting Nepal's growing engagement in space technology. Dr. CK Raut, Member of Parliament accompanied by his team, including Dr. JK Raut, Member of National Planning Commission, visited NAST's Space Research Centre to observe a rocket engine test conducted by Mach24 Orbitals. Dr. Raut emphasized the importance of advancing space technology in Nepal and expressed his commitment to providing necessary support for future endeavors.



Later that day, the Honorable Minister of Education, Science, and Technology, Bidhya Bhattarai, toured the Space Research Centre in NAST. She inspected the prototype of a sub-orbital rocket under development and then convened a meeting at the Ministry to discuss advancing the project, offering support for its progression. These visits underscore a collaborative effort among government officials, industry leaders, and research institutions to bolster Nepal's capabilities in space technology and exploration.

Nepal Startup and Small and Medium Enterprises Conference -2025

The Nepali Congress organized the Nepal Startup and SME Conference on January 29-30, 2025 (Magh 16-17,) in Lalitpur. The two-day event aimed to bolster Nepal's entrepreneurial ecosystem by promoting innovation, and supporting Startups & Small and Medium Enterprises (SMEs). Sher Bahadur Deuba, the President of the Nepali Congress and a Former Prime Minister, emphasized the need for entrepreneurship and innovation in revitalizing Nepal's economy amidst global challenges. He opined that the conference would encourage local entrepreneurship, create self-employment, opportunities for youth, and attract investment.



The conference highlighted government support for startups through subsidies, skill-development



programs, and concessional loans. The event featured an exhibition with 80 stalls showcasing various startups and SMEs. It provided a platform for networking, investment opportunities, and discussions on economic transformation. Mach24

Orbitals, in collaboration with the Nepal Academy of Science and Technology (NAST), showcased their suborbital hybrid rocket at the conference. The rocket is designed to reach an altitude of 100

km and is scheduled for launch next year. Their display attracted attention from attendees, including His Excellency Mr. Park, Ambassador of the Republic of Korea to Nepal. Mach24 Orbitals and NAST benefited from the Nepal SME & Startup Summit 2025 through networking with policymakers, attracting investor interest, inspiring the public with their rocket exhibit, and gaining media exposure to boost brand recognition. This conference served as a significant platform for entrepreneurs, investors, and policymakers to discuss strategies for fostering innovation and investment, aiming to drive economic growth and establish Nepal as a hub for technological advancement.



Commercial Potential of Medicinal Mushrooms in Nepal: Opportunities and Challenges

On January 31, 2025 (Magh 18), the Nepal Academy of Science and Technology (NAST) in collaboration with Mushroom Seed Nepal, Bhaktapur, organized a workshop titled “Commercial Potential of Medicinal Mushrooms in Nepal: Opportunities and Challenges.” The event aimed to facilitate interactions among stakeholders regarding the study, research, utilization, and commercial viability of medicinal mushrooms in Nepal.



Discussions centered on ongoing studies and research related to medicinal mushrooms, emphasizing the importance of scientific exploration in unlocking their commercial potential. The workshop highlighted opportunities for processing medicinal mushrooms and adding value through various products, aiming to enhance marketability and economic benefits. Participants explored avenues for developing enterprises centered on medicinal mushrooms, considering both domestic and international market prospects.

The event featured presentations of working papers and interactive sessions, fostering discussions among stakeholders. These interactions are anticipated to provide valuable insights and recommendations for policymakers and industry participants, guiding the sustainable development of the medicinal mushroom sector in Nepal. This initiative also aligns with global trends recognizing the economic and health benefits of medicinal mushrooms. For instance, studies have shown that Ganoderma mushrooms, considered important non-timber forest products in Nepal, have entered the industrial market only in the past decade, with significant quantities harvested for both domestic use and export. Such workshops play a crucial role in advancing knowledge and fostering collaborations to fully harness the potential of this emerging sector.

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

For the fiscal year 2081/82, 9 Research Assistants (RAs) and 14 Assistant Research Fellows (ARFs) were appointed. These appointments were made based on applications received and selection criteria, with the official appointments taking place on 31st January, 2025 (18th Magh, 2081). Additionally, the tenure of 7 Assistant Research Fellows appointed in the previous Fiscal Year 2080/81 has been extended by one year. NAST regularly provides opportunities such as Research Fellowships and Assistantships to support the research of the Academy. These programs are announced annually, and interested candidates are encouraged to apply within a stipulated time.

The list of appointed RA and ARF for 2081/82:

S.N.	Subject	No.	Name	Position
1.	Automobile Engineering	1	Shahil Sharma	RA
2.	Aerospace Engineering	1	Lelin Adhikari	
3.	Computer Science (IAC)	1	Rahis Khan	
4.	Electronics Engineering	1	Damodar Pokhrel	
5.	Promotion Division	1	Milan Neupane	
6.	Mechanical Engineering	4	1. Prajwal Dahal 2. Bhaskar Rasaily 3. Siddhanta Kishor Subedi 4. Bipin KC	
7.	Physics	2	1. Ramesh Simkhada 2. Sudhan Koirala	ARF
8.	Botany	2	1. Rajaram Khang Khatbe 2. Urmila Dhami	
9.	Chemistry	3	1. Sujan Dhital 2. Nawarj Karki 3. Sabina Pant	
10.	Microbiology	2	1. Manita Shyaula 2. Dinju Manandhar	
11.	Environment	3	1. Sarala Adhikari 2. Manisha Ghimire 3. Ujita Giri	
12.	Biotechnology	1	1. Elisha Upadhyaya	
13.	Promotion Division	1	1. Naina Byanjankar	
14.	Botany	1	1. Suman Poudel	Extended ARF
15.	Chemistry	2	1. Najma Bajracharya 2. Siddha Raj Upadhyaya	
16.	Biotechnology	1	1. Mohammad Attaullah Siddiqui	
17.	Engineering	3	1. Yuvraj Dahal 2. Ramesh Gautam 3. Aasutosh Ranjan	

Nepal Technology of Science and Technology (NAST), extends heartfelt congratulations to all individuals selected for the positions of Assistant Research Fellow (ARF) and Research Assistants (RA). We warmly welcome you to the NAST family and look for your valuable contribution to the advancement of science and technology.

NAST Specialized Research Center

Interactive Seminar with Stakeholders for Restructuring of NAST

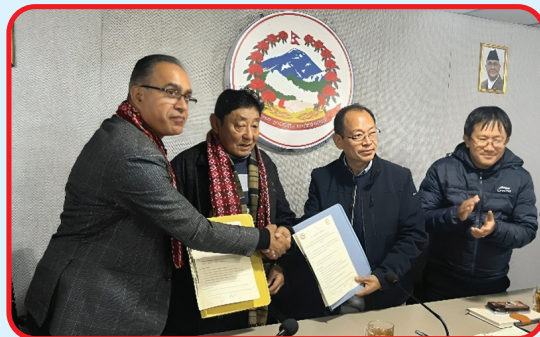
On January 1, 2025 (Poush 17, 2081), the Nepal Academy of Science and Technology (NAST) organized an interactive seminar in Pokhara the capital of Gandaki Province, to discuss the restructuring of the Academy. The seminar was attended by key figures, including Prof. Dr. Dilip Subba, Vice-Chancellor of NAST, Dr. Rabindra Dhakal, Secretary of NAST, Prof. Dr. Dipak Bahadur Bhandari, Registrar of Pokhara University, Prof. Dr. Nawaraj Devkota, Vice-chancellor of Gandaki University, Dr. Krishna Chandra Devkota, Vice-chair of the Gandaki



Policy and Planning Commission Dr. Dinesh Chandra Devkota, Coordinator of the NAST Restructuring Suggestion Committee, Dr. Suresh Dhungel, Spokesperson for NAST, Dr. Ram Chandra Poudel, Senior Scientific Officer at NAST. The seminar aimed to engage stakeholders in discussions about the restructuring process of NAST, fostering collaboration and gathering input to enhance the Academy's role in advancing science and technology in Nepal.

MoU Between NAST and Suryodaya Municipality

On January 24, 2025 (Magh 11), Suryodaya Municipality and the Nepal Academy of Science and Technology (NAST) formalized an agreement to establish and operate Nepal's first Tea Testing, Promotion, and Research Centre in Kanyam, Ilam. The agreement was signed by NAST Secretary Dr. Rabindra Prasad Dhakal and Suryodaya Municipality Mayor Rana Bahadur Rai, in the presence of NAST Vice-chancellor Prof. Dr. Dilip Subba. Under this partnership, NAST will oversee the Center's operations for the initial two



years, providing technical staff and equipment to establish a modern laboratory for quality testing and research in Nepali tea. Suryodaya Municipality will support formulating policies for local tea production, providing infrastructure, coordinating with government bodies for equipment procurement, and managing the laboratory's budget.

At the signing ceremony, tea entrepreneur Uday Chapagain proposed adopting a Public-Private Partnership (PPP) model for the Center's operation, emphasizing the need for collaborative efforts to enhance the tea industry's growth. Uttam Kumar Pradhan, Chairperson of the Suryodaya Tea Association, highlighted the importance of achieving international recognition for the tea tested at the Centre.

Orientation on “Chure Conservation and Development”



A two-day orientation on “Chure Conservation and Development” was organized by the Specialized Research Center of the Nepal Academy of Science and Technology (NAST) in Bardibas, Madhesh Province, on January 27-28, 2025 (Magh 14-15). The program was held under the chairmanship of Prof. Dr. Parasnath Yadav, Chairman of

the management committee of Specialized Research Center, Madhesh Province. The chief guest for the program was Dr. Sohan Prasad Shah, Vice-chair of the Madhesh Province Policy and Planning Commission, and special guest was Mr. Prahlad Chhetri, Chief of Bardibas Municipality. The program underscored the integral connection between the Chure region and the livelihoods of Madhesh’s inhabitants. Dr. Sohan Prasad Shah, Vice-chair of the Madhesh Province Policy and Planning Commission, highlighted the resource dependency stating that the livelihoods of Madhesh’s people are deeply intertwined with the Chure region, providing essential resources such as energy, drinking water, environmental benefits, and irrigation. Likewise, Dr. Nagendra Yadav, a conservation expert, stressed the necessity of assessing challenges faced by the Chure and urged government bodies and stakeholders to implement planned programs for sustainable solutions. Dr. Nagdev Prasad Yadav presented on successful local-level practices, including controlling rivulets along the Chure hills, water refilling ponds, landslide control, and afforestation, to mitigate adverse impacts of climate change. In addition to presenting a working paper on the topic, Dr. Binod Bhatta, a specialist in Chure and climate change, chaired a session entitled “Chure conservation: Whose concern, whose responsibility?”. Dr. Rabindra Prasad Dhakal, Secretary of NAST, attended the event and emphasized that Chure conservation is crucial for ensuring Madhesh’s long-term prosperity and environmental sustainability.

This orientation aligns with broader national initiatives, such as the President Chure-Terai Madhesh Conservation Area Program, which aims to conserve the natural resources of the Chure region through sustainable management and promotion of ecological services. The event concluded with a consensus on the importance of collaborative efforts and science-based solutions, supported by clear policies to ensure responsible resource utilization, ensuring the well-being of both the environment and the people of Madhesh.

NAST-Specialized Research Laboratories

Province Name	Activity	Chairman of Management Committee	Inaguration Date
Koshi, Dharan	Agriculture and Food Technology	Prof. Dr. Dilip Subba	Baisakh 28, 2081
Madhesh, Bardibas	Chure Conservation and Development	Prof. Dr. Parasnath Yadav	Asoj 06, 2079
Bagmati, Chitwan	Urban Development and Environment	Prof. Dr. Jiba Raj Pokhrel	Shrawan 16, 2079
Gandaki, Pokhara	Mountain Green Economy	Dr. Indira Parajuli	Mangsir 16, 2079
Lumbini, Dang	Traditional Technology	Prof. Dr. Bharat Mani Pokhrel	Poush 23, 2079
Karnali, Surkhet	Information and Communication Technology	Dr. Niroj Pandey	-
Sudhuraschim, Mahendranagar	Research and Study in Herbal Medicine	Prof. Dr. Bijaya Pant	Asar 29, 2074

NAST Audio Visual Program

Radio Program List

S.N.	Program Date	Program Title (1 st Segment)	Program Title (2 nd Segment)
1.	January 4, 2025 (Poush 20)	Pure honey and color recognition by eye	The beginning of hydroelectricity, and the use of electronic devices
2.	January 11, 2025 (Poush 27)	Earthquake-related conversation with seismologist Dr. Shiva Subedi	
3.	January 18, 2025 (Magh 05)	Human Body	Seminar report on the Michaha species
4.	January 25, 2025 (Magh 12)	1. Why do people twitch in their sleep? 2. About scientist Joseph Priestley	1. Earthquake education exhibition held at NAST on the occasion of Earthquake Safety Day 2. Why the descendants of Ban Manche do not have ability to speak?

Television Program List

S.N.	Program Date	Program Title
1.	January 4, 2025 (Poush 20)	1. Collaboration for National Innovation Ecosystem 2. Fluka Virus 3. CO Pollution in Winter
2.	January 11, 2025 (Poush 27)	1. NMR Instrument and its uses
3.	January 18, 2025 (Magh 05)	1. A seminar for Environmental Journalists on Communicating Biological Invasions to communities 2. Ultraviolet Radiation
4.	January 25, 2025 (Magh 12)	1. NAST Earthquake Learning Exhibition-2081 2. 5 th Symposium of Nepal JSPS Alumni Association (NJAA) 3. Wildlife mangement : oppurtunities and challenges

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**NAST MONTHLY NEWSLETTER
JANUARY 2025**

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