



Awards Asia 2026

Research Project of the Year: STEM

Institution Name	Chulalongkorn University
Submission title or project name	DeepGI: real-time AI-assisted endoscopy for colorectal cancer prevention
Nominee / key personnel	Peerapon Vateekul (Faculty of Engineering)
URL	https://deepgi.co/ https://pubmed.ncbi.nlm.nih.gov/37963587/ https://www.chula.ac.th/en/news/176346/ https://www.chula.ac.th/en/news/245358/
Submission	Colorectal cancer is the world's third most common cancer and the second leading cause of cancer-related deaths, with 1.9 million new cases and 900,000 deaths in 2020. In Thailand alone, more than 15,000 new cases occur annually. While colonoscopy is the gold standard for screening, its effectiveness is limited by physician expertise and workforce capacity. To address this, Chulalongkorn University, in collaboration with medical and industry partners, developed DeepGI, an AI-powered system for real-time polyp detection. Validated through randomised controlled trials across five hospitals and 1,200 patients, DeepGI improved adenoma detection rates by 17 per cent and showed significant gains in proximal and advanced adenoma detection. Now at technology readiness level-7 and deployed in hospitals, it provides an affordable, scalable solution that strengthens early cancer prevention. With ongoing extensions to gastric and bile duct abnormalities, DeepGI demonstrates the transformative role of AI in healthcare and exemplifies STEM innovation with far-reaching societal impact.



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Research Project of the Year: STEM

Institution Name	Davao Oriental State University
Submission title or project name	Macro- and micro-plastic pollution (M2P2) in marine ecosystems and fisheries in south-eastern Mindanao, Philippines
Nominee / key personnel	The Macro- and Micro-Plastic Pollution (M2P2) team at Davao Oriental State University
URL	https://web.facebook.com/DOrSUM2P2
Submission	The Philippines, with its rich marine biodiversity, is facing increasing threats from plastic pollution. The Macro- and Micro-Plastic Pollution (M2P2) research programme at Davao Oriental State University examines the prevalence of plastics in vital ecosystems and the seafood consumed by coastal communities. One key strategy is involving local stakeholders to integrate knowledge, attitudes and practices towards a holistic understanding of the plastic problem. Despite positive engagement of locals, barriers to action remain. Community clean-ups are organised, leveraging the strength of women and young people. M2P2 produces contextualised educational materials and utilises various media to promote behavioural change. The programme trains human capital to leverage science into concrete actions for resolving the plastic problem. M2P2 continues on a journey to reduce plastic waste, ensure access to microplastic-free food and water, and engage citizens in a regenerative future, blending science, advocacy, action and direction.



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Research Project of the Year: STEM

Institution Name	Hiroshima University
Submission title or project name	Breaking the egg barrier: the creation of ovomucoid-free eggs for a safer future
Nominee / key personnel	Hiroyuki Horiuchi
URL	
Submission	Egg allergies affect about 35 million people worldwide, turning everyday foods such as pudding or French toast into “forbidden dreams”. The main allergen, ovomucoid, is an exceptionally stable protein that resists heat and digestion, making it the toughest challenge in allergy research. At Hiroshima University, Hiroyuki Horiuchi and Takashi Yamamoto achieved a scientific milestone by developing chickens that do not produce ovomucoid, creating the world’s first ovomucoid-free eggs. These eggs produced healthy chicks over five generations and showed no abnormal changes through genome and proteomic analyses. Clinical studies confirmed that they do not trigger allergic reactions, proving their safety for consumption. This breakthrough opens new possibilities for people with egg allergies and for industries relying on eggs, including vaccines, pharmaceuticals and cosmetics. Regulatory approval is under way in the US, with research expanding globally – offering hope for a world free from dietary limitations.



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Research Project of the Year: STEM

Institution Name	IIMT University
Submission title or project name	AI-driven precision farming system for sustainable and efficient agriculture
Nominee / key personnel	Research and development team, IIMT University
URL	https://iimtu.edu.in/uploads/images/the8.pdf
Submission	The AI-driven precision farming system for sustainable and efficient agriculture, developed by IIMT University Meerut, addresses critical challenges faced by agriculture today – water scarcity, climate variability, pest outbreaks and environmental degradation caused by excessive chemical use. Smallholder farmers in developing regions often lack access to advanced technologies and real-time data to optimise resource use effectively. This research project integrates artificial intelligence, the internet of things and precision agriculture to empower these farmers to improve productivity sustainably. The project's core objectives included designing a cost-effective sensor network to monitor soil moisture, nutrient levels and microclimate variables; developing AI models that analyse sensor and multispectral drone imagery data to deliver precise irrigation, fertilisation and pest management recommendations; creating an intuitive mobile app with real-time guidance in local languages for user-friendly farmer interaction; and validating the system's performance across diverse agro-climatic zones while demonstrating measurable economic and ecological benefits.



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Research Project of the Year: STEM

Institution Name	Nazarbayev University
Submission title or project name	From Earth to orbit: Kazakhstan's breakthrough battery technologies for sustainable energy and aerospace
Nominee / key personnel	Dauren Batyrbekuly; Zhumabay Bakenov; Batukhan Tatykayev; and a team of 10 researchers and graduate students
URL	
Submission	Nazarbayev University is advancing a strategic initiative that unites sustainable energy with aerospace innovation. At its core is Kazakhstan's first automated pilot line for lithium-ion pouch cell production, based on LiFePO_4/graphite chemistry. This platform enables domestic expertise in battery manufacturing, reducing reliance on imports and strengthening Kazakhstan's role in the global clean energy transition. The project has produced 3.2V, 7000mAh pouch cells, optimised through advanced electrode formulations and compatible with high-throughput manufacturing. These prototypes are designed for small electrical vehicles, grid storage and portable electronics, while extending into aerospace applications. In partnership with Ghalam and HIT, aerospace-oriented batteries are being tested in simulated space conditions – Kazakhstan's first step towards powering satellites and stratospheric unmanned aerial vehicles. Strategic collaborations with international partners ensure both technological progress and knowledge transfer. This initiative positions Kazakhstan as a regional hub for advanced energy storage, supporting both green economy goals and new frontiers in space exploration.



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Research Project of the Year: STEM

Institution Name	Oguz Han Engineering and Technology University of Turkmenistan
Submission title or project name	Transforming hazardous waste into high-purity gypsum: a breakthrough in sustainable material science
Nominee / key personnel	
URL	https://etut.edu.tm/news/225
Submission	Researchers at Oguz Han Engineering and Technology University of Turkmenistan have pioneered a closed-loop chemical process to purify hazardous phosphogypsum waste into 99 per cent pure gypsum. This innovative method, operating at just 90C, uses recyclable reagents to efficiently remove impurities, increasing product whiteness from 50 per cent to 92 per cent. This repeatedly award-winning project transforms an environmental liability into a valuable resource for the construction, polymer and chemical industries. By offering a scalable solution to a global waste problem, the project demonstrates how STEM research can drive the circular economy. This achievement has been consecutively recognised, winning a national award in Turkmenistan, followed by international gold medals at both the World Sustainable Development Goals Challenge 2025 and the Youth International Science Fair 2025 competitions.



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Research Project of the Year: STEM

Institution Name	Seoul National University
Submission title or project name	Next-generation oral antiviral discovery: dual inhibition of Nsp12 functions with 4'-Thiouridine
Nominee / key personnel	Jeong Lak Shin
URL	
Submission	This project introduces the discovery of 4'-Thiouridine, a next-generation oral antiviral that uniquely inhibits both RNA-dependent RNA polymerase (RdRp) and nucleotidyltransferase (NiRAN) functions of the coronavirus Nsp12 enzyme. Developed by Jeong Lak Shin's team at Seoul National University in collaboration with KRICT, the compound demonstrated over 100 per cent oral bioavailability, potent antiviral efficacy in cellular and animal models, and significantly improved survival in lethal infection studies. Its broad-spectrum activity against SARS-CoV-2 variants and MERS-CoV underscores its potential as a universal antiviral platform. The research exemplifies how interdisciplinary collaboration can yield transformative breakthroughs, pioneering dual inhibition as a novel therapeutic paradigm. Recognised in the <i>Journal of Medicinal Chemistry</i>, this discovery represents a critical advancement in pandemic preparedness, with profound academic, social and economic implications.



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Research Project of the Year: STEM

Institution Name	Suranaree University of Technology
Submission title or project name	Gemstones from agricultural waste: an integration of art, innovation and social sustainability
Nominee / key personnel	Siriwan Chokkha (School of Ceramic Engineering, Institute of Engineering)
URL	
Submission	Agricultural waste in Thailand is often burned, which contributes to pollution high in the potentially dangerous particulate matter PM2.5. Suranaree University of Technology developed a STEM-based solution that converts residues into high-purity silica through controlled thermal and chemical processes. This silica is engineered with other compounds to reproduce gemstone crystal structures, creating functional prototypes. The project highlights student-led innovation, showing science and creativity can turn “trash into treasure”. The project delivers measurable impact: 100g of rice husk yields 20g of silica, which produces 10 to 15 gemstones worth Bt1,000 to Bt2,000 each. Beyond economics, it builds networks among farmers, artisans, students and entrepreneurs, fostering pride and environmental responsibility. International recognition includes acceptance at the International Conference on Sustainable Innovations and Partnerships (SIP-2025) in Canada and a memorandum of understanding with CPF, Thailand’s largest animal feed producer, signalling a shift in how residues are valued. Aligned with SDGs 8, 9, 11 and 12, the model is scalable and replicable, offering a pathway to sustainable STEM innovation.