



Science Diplomacy Alert

A Monthly Newsletter on S&T, Science Policy and Diplomacy

Focus

India's BRICS Chairship 2026: A Defining Moment for Global AI Governance



Under its BRICS 2026 Chairship, with the theme of "Building Resilience and Innovation for Cooperation and Sustainability", India stands poised to lead this transformation. By championing a framework that is inclusive and development-oriented, India can help forge a more equitable, representative, and just global digital order. Dr Amit Kumar writes.

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SCIENCE POLICY & DIPLOMACY

International S&T Cooperation

BRICS Adopts Chennai Consensus to Strengthen STI Cooperation

BRICS countries unanimously adopted the Chennai Consensus, placing people-centred innovation, collaborative research and Global South priorities at the heart of STI cooperation. The framework advances shared research infrastructure, knowledge exchange, talent mobility and joint action in emerging and strategic technologies.

India-Seychelles Strengthen Cooperation in Fisheries and Aquaculture

India and Seychelles explored collaboration in marine aquaculture, hatchery development, tuna fisheries, stock assessment and advanced post-harvest technologies. The discussions also covered AI-enabled fisheries management, data systems, joint scientific research and technical capacity building.

India Deepens Power Sector Cooperation with Bhutan and Sri Lanka

India reaffirmed its commitment to strengthening energy cooperation with Bhutan and Sri Lanka, covering hydropower, renewable energy, cross-border electricity trade and transmission connectivity. The engagements underscore India's role in advancing regional energy security, sustainable development and the clean energy transition.

India Develops Critical Equipment for FAIR

India has developed key accelerator components for the FAIR mega-science project in Germany, including beam catchers, vacuum chambers and power converters. The contribution showcases India's advanced engineering capabilities and growing role in international mega-science initiatives.

India-Brazil Strengthen Cooperation in Telecommunications and ICTs

India and Brazil signed an MoU to deepen cooperation in telecommunications and ICTs, covering AI, 5G/6G, cybersecurity, digital infrastructure and emerging technologies. The framework also promotes knowledge exchange, capacity building and collaboration on universal connectivity and Digital Public Infrastructure.

India-Uzbekistan to Strengthen Cooperation in Digital Technologies, Innovation and Space

India and Uzbekistan agreed to strengthen cooperation in high technologies and digital transformation, including safe and trustworthy AI, technology parks, startups and educational institutions. Both sides also reaffirmed cooperation in space applications, scientific data exchange, joint workshops and capacity building.

India-Argentina Strengthen Cooperation in Digital, Space and Emerging Technologies

India and Argentina identified opportunities to expand cooperation in space technology, telecommunications and digital services, with a focus on 5G, artificial intelligence and digital infrastructure. Discussions also covered space and nuclear cooperation, including a proposed ISRO-CONAE meeting.

Emerging Tech & Governance

TDB-DST Supports Commercialisation of Indigenous Agentic AI

TDB-DST has partnered with One2X Tech Pvt. Ltd. to support the commercialisation of its indigenous Agentic AI platform, Fixit. The initiative aims to strengthen India's sovereign AI capabilities and enable AI-driven automation across complex enterprise workflows.

New Approach Could Enhance Quantum Network Connectivity

Scientists at Bose Institute have developed a new approach to improve long-distance quantum communication using weak entanglement links. The method could enable more efficient quantum networks while reducing the need to disconnect intermediate stations.

AI Identifies Hidden Cancer Stem Cells Linked to Tumour Recurrence

Researchers from SIBRC and Ashoka University have developed an AI framework, ACSCeND, to identify hidden cancer stem-like cells from tumour data. The breakthrough could help predict recurrence and treatment response, supporting more targeted and precise cancer therapies.

Europe Expands AI and Supercomputing Capacity with LUMI-AI

EuroHPC JU has signed a €387.8 million contract to deploy the LUMI-AI supercomputer in Finland, expected to deliver ten times the AI capacity of the existing LUMI system. The pan-European initiative will strengthen AI, HPC and data-driven research while integrating with quantum computing through the LUMI-IQ platform.

NUS-OpenAI Strengthen Cooperation in Artificial Intelligence

The National University of Singapore and OpenAI have entered into a strategic collaboration to expand AI capabilities across education, research and administration. The partnership will support AI talent development, innovation, research discovery and responsible adoption of advanced AI tools across the university.

IISc Establishes Quantum Computing Thematic Hub under National Quantum Mission

IISc has established the Foundation for QC Innovation (FQCI) as the Quantum Computing Thematic Hub under the National Quantum Mission. FQCI will bring together academia, industry and startups to advance quantum computing research, infrastructure, talent development and the translation of indigenous quantum technologies.

Events & Meetings

BRICS Civil Forum Held in New Delhi

The BRICS Civil Forum 2026, convened by RIS as the nodal institution for India's BRICS Chairship, brought together civil society organisations, experts and institutions from across BRICS countries for dialogue on shared development priorities. The Forum through its seven thematic Working Groups focused on health, culture, education, finance, ecology, technology and entrepreneurship and social welfare.

Eighth BRICS Ocean and Polar Science and Technology Working Group Meeting

BRICS countries convened the 8th Ocean and Polar Science and Technology Working Group meeting in Goa to advance collaborative research, knowledge exchange and capacity building. The meeting prioritised coastal resilience, joint polar research, ocean biodiversity and opportunities for young researchers.

CSIR Workshop on Innovative Materials for Sustainable Infrastructure

CSIR-CRRI and CSIR-AMPRI convened a workshop on innovative materials, advanced composites and sustainable technologies for infrastructure. Discussions focused on resource-efficient construction, recycling, rehabilitation and translating research innovations into field-ready solutions.

National Conference on Quantum Biotechnology Held

The National Conference on Quantum Biotechnology brought together researchers, clinicians, industry and startups to advance quantum-enabled applications in diagnostics, biomedical imaging, drug discovery and precision medicine. The conference highlighted the National Quantum Mission's focus on translating quantum sensing and computing capabilities into deployable healthcare technologies.

C-DAC and GSI MoU Advances Digital Technologies for Earth Science

Applications

The collaboration between C-DAC and GSI brings together advanced computing and geoscientific expertise to address challenges in mineral exploration, subsurface mapping and disaster risk reduction. By harnessing AI, HPC, SAR and data-driven modelling, the partnership aims to strengthen capabilities in critical mineral discovery, geological intelligence and early warning systems.

IIT Patna Develops Hybrid Magneto-Rheometer for Smart Fluids

IIT Patna scientists have developed a hybrid magneto-rheometer to characterise smart fluids under compression and shear. The technology could advance MR-fluid applications in aerospace, medicine, defence and automation.

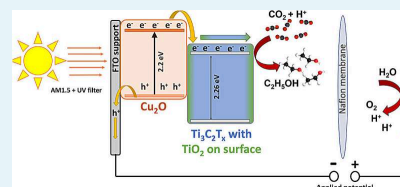
Smartphone-Based Technology Advances Accessible Alzheimer's Diagnosis

Scientists at JNCASR have developed a fluorescence-based probe and smartphone platform for detecting the Alzheimer's biomarker amyloid- β . The low-cost, portable technology could enable rapid and accessible screening of Alzheimer's disease.

ADVANCES IN S&T

Nano-Sandwich Photocathode Boosts Solar CO₂-to-Ethanol Conversion

The Problem: Converting CO₂ into useful fuels using sunlight is promising for sustainable energy, but cuprous oxide (Cu₂O), an efficient and inexpensive light-absorbing material, degrades rapidly in water under illumination. This instability limits its practical use in photoelectrochemical CO₂ conversion.

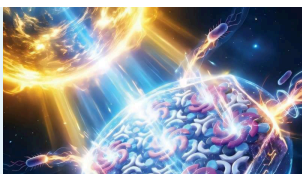


The Method: Researchers at Charles University developed a “nano-sandwich” photocathode by combining Cu₂O with two-dimensional MXene materials and adding an ultrathin titanium dioxide (TiO₂) layer through controlled heating. The MXene helps rapidly remove electric charge from Cu₂O, slowing its degradation while enabling the charge to drive the conversion of CO₂ into ethanol. The resulting system achieved 2.74% solar-to-ethanol conversion efficiency and produced ethanol as its sole liquid product.

Future Prospects: The researchers aim to further improve the stability of the photocathode and move towards larger-scale testing under real daylight conditions. The selective production of pure ethanol could simplify future industrial application and support the development of solar-driven CO₂ conversion technologies for sustainable fuel production.

Layered Nano-Biohybrid Converts Sunlight, Air and Water into Hydrogen Peroxide

The Problem: Producing hydrogen peroxide is currently expensive and energy-intensive, while conventional semiconductor-based approaches can require high energy inputs



and complex catalytic systems. The challenge is to develop a more efficient method that can produce hydrogen peroxide under mild conditions.

The Method: Researchers at Argonne National Laboratory, together with scientists from Japan's Photon Science Innovation Center and Tohoku University, developed a layered nano-biohybrid material using bismuth oxychloride and a light-absorbing purple membrane derived from archaea. The biological membrane captures sunlight and facilitates charge transfer, enabling the semiconductor to convert oxygen from air and water into hydrogen peroxide. The hybrid produced more than five times as much hydrogen peroxide as the semiconductor alone.

Future Prospects: The system operates under ambient conditions using inexpensive, abundant materials, offering potential for more energy-efficient chemical production. The nanoarchitectonic approach could also be explored for other applications, including the production of fertilizer and fuel components, as well as advanced chemical and materials systems.

INSIGHTS & RESOURCES

World Development Report 2026: The Promise of Artificial Intelligence

The World Bank's World Development Report 2026, launched on 4 August 2026, examines how AI can reshape development in low- and middle-income countries. At a time when global development progress is at its weakest pace in 75 years, the report presents AI as a potential accelerator of productivity, public services and economic growth, while highlighting the infrastructure, skills, institutional and governance gaps that could widen inequalities.

Key Highlights :

- **AI as a development accelerator:** AI could enable developing countries to achieve in a decade what might otherwise take a century, by expanding access to expertise and helping address persistent development challenges.
- **Rapid diffusion of AI:** AI is spreading faster than previous general-purpose technologies. Middle-income countries accounted for half of ChatGPT's global traffic within six months of its launch.
- **“Adopt, Adapt, Advance” framework:** The report recommends that developing countries first adopt existing AI tools, then adapt them to local languages, institutions, data and needs, and eventually advance their own AI capabilities where feasible.
- **Local adaptation is critical:** Simply importing AI technologies may not deliver maximum benefits. AI solutions need to reflect local contexts and can be designed for environments with limited connectivity—for example, delivering AI-enabled advice through voice calls and basic mobile phones.
- **Small AI can have large impacts:** Low-cost AI tools can extend scarce expertise in areas such as healthcare, agriculture and education, including where computing power and internet access remain limited.

- AI value chain is highly concentrated: Advanced AI models, chips and data centres are concentrated among a small number of companies and countries, creating dependency risks for developing economies.
- Infrastructure and skills are foundational: Reliable electricity, internet connectivity, computing infrastructure, education, data and institutional capacity are essential complements for AI adoption and adaptation.
- AI and employment: In developing countries, AI is initially more likely to complement workers than replace them, although disruption is already more visible in knowledge-intensive services. Without adequate complementary capabilities, AI could nevertheless widen productivity gaps between countries.
- Public services offer major opportunities: Governments can use AI to strengthen healthcare, education, agriculture, weather forecasting, tax administration and other public services, while building capacity to evaluate and procure AI systems effectively.
- Governance and international cooperation: Governments need to act simultaneously as enablers, users and regulators of AI, while international cooperation can help develop trustworthy AI governance without creating unnecessary barriers to innovation.
- Strategic choice for developing countries: The report cautions that building frontier AI models and the infrastructure behind them is extremely expensive; for most developing countries, strategic adoption and local adaptation may offer greater near-term benefits than attempting to replicate frontier AI ecosystems.

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