

KPCSD EVENTS



**VISHWAKARMA AWARD FOR
ENGINEERING INNOVATION 2022**

Dr Kiran C Patel Centre for Sustainable Development, in collaboration with Maker Bhavan Foundation and WIN Foundation, organised ‘Vishwakarma Award for Engineering Innovation 2022’, a national competition to incentivise Indian science and engineering students to build innovative water and sanitation systems around the theme ‘Water and Sanitation’. The 10 shortlisted teams got to compete through on-site demonstration in a grand finale organised on August 27 at IIT Gandhinagar. Some of the engineering solutions for water and sanitation challenges designed by the students included an innovation to reduce water consumption in flushing a conventional toilet by almost 66%, a device for solar thermal disinfection of drinking water, a cost-effective and sustainable liquid waste treatment and recycling system for domestic dwellings, development of arsenic removal unit with electrocoagulation and activated alumina sorption. The top three teams received cash prizes of Rs 5 lakh, Rs 2 lakh and Rs 1 lakh, respectively. All shortlisted teams were provided funding and mentoring support and built a prototype in four months.

SWACHHATA PAKHWADA

IIT Gandhinagar observed ‘Swachhata Pakhwada’ from September 1 to 15, with several events and activities, including various competitions, waste collection drives, and awareness campaigns. KPCSD and Green Club at IIT Gandhinagar organised an online seminar on “Resource Recovery from Waste – Circular Economy Approach for Sustainable Urbanisation” by Prof Brajesh K Dubey, Professor, Circular Engineering, Department of Civil Engineering and Chair, School of Water Resources at the Indian Institute of Technology Kharagpur. The seminar, attended by more than 80 members, highlighted effective resource recovery approaches requiring a detailed integrated waste management plan with a circular economy and systems thinking concept. Prof Dubey shared his experiences, lessons, do’s and don’ts, learned as part of various waste management projects while he worked with several cities/ municipalities in India, Canada, New Zealand, Australia and the USA.

SUSTAINABILITY SEMINAR SERIES

The Centre conducted six seminars between July through December 2022 as part of the Sustainability Seminar Series. The seminars covered a range of topics, including clean air, fossil fuel resource exploitation, energy security, climate change, wildlife conservation and clean cooling technologies. More than 400 people attended the events from India and several locations across the globe, such as Germany, Israel, Pakistan, the Netherlands, the Republic of Korea, the United Arab Emirates, United Kingdom and the United States. Details of the seminars organised are as follows:

Dr Pallavi Pant, Senior Scientist, Health Effects Institute; Pursuit of clean air in India

Ms Tiasa Adhya, Member, IUCN Cat Specialist Group; Fishing Cats: A wetland cat requiring a socio-ecological conservation approach

Prof Volker Vahrenkamp, Professor, Energy Resources and Petroleum Engineering, Physical Science and Engineering Division, King Abdullah University of Science and Technology, Saudi Arabia; The conundrum of fossil fuel resource exploitation, climate change & energy security – What can we do?

Prof Deepti Ganapathy, Professor and Chair, Centre for Management Communication, Indian Institute of Management Bangalore; Communicating climate change to a fragmented audience



Dr R Brawin Kumar, Early-career conservation biologist; Hedgehog conservation in Tamil Nadu: Saving rare small mammals with people’s participation

Prof Armin Hafner, Professor, Department of Energy and Process Engineering, Norwegian University of Science and Technology (NTNU), Norway; Clean cooling technologies for India.

Q&A



Dr Chhavi Nath Pandey
Professor of Practice
Civil Engineering and Earth Sciences

Biodiversity and Ecosystem Services: From the perspective of biodiversity-climate-community nexus

What is the relevance and the major challenges for forest protection?

The forests are very important for human existence because the forest ecosystem services in terms of water conservation, air purification, and supply of various forest products constitute the major ecosystem services on which the human population directly depends. The forests are also home to a significant part of biodiversity on the Earth. In totality, the food chains and food webs in the forest ecosystems also provide food, timber, non-timber forest products, and medicines.

You were earlier a member of the Indian Forest Service. Can you elaborate on some of your contributions?

I have served in various capacities as a member of the Indian Forest Service. My primary areas of interest and contributions have been Joint Forest Management, community participation and tribal development, ecological research, wildlife conservation and management, biodiversity studies, marine ecosystems research, mangroves, carbon sequestration assessment, and Environment Impact Assessment.

I have particularly contributed to Joint Forest Management and biodiversity research in various ecosystems such as forest ecosystems, wetlands, marine ecosystems, grasslands, etc. I have studied the carbon sequestration potential of tree species across Gujarat and mangrove habitats and contributed to the habitat enumeration of vultures, Great Indian Bustards, mangroves, etc.

Can you share some examples of ways in which the local tribal community contributes to forest conservation?

The tribal people and natural resources are intricately related to each other. They have supported each other for thousands of years. The tribal communities have supported conservation through sustainable use of forest resources and not resorting to large-scale exploitation. They depend on forests for products

like timber, firewood, fruits, seeds, gums, oils, medicines, fibres, and fodder. Their socio-economic and cultural outlook is pro-conservation because they do not cultivate these things and depend on nature's productivity. Thus, their attitude towards forests is that of long-term conservation and sustenance.

What are some of the most important drivers of biodiversity loss in natural ecosystems?

The most important drivers of biodiversity depletion are human population explosion, non-sustainable development, high carbon footprint lifestyle, improper and inadequate waste management and lack of integration of traditional wisdom into a modern lifestyle.

How can ecosystem-based adaptation reduce ecosystem's and people's vulnerability to adverse impacts of climate change?

We need to conserve all the ecosystems and habitats in a landscape. Such conservation should aim to protect all the ecosystems' structures, functions, and processes. The ultimate test of ecosystem sustainability is biodiversity conservation. If an ecosystem has more diversity of flora and fauna, it will be less vulnerable to climate change impacts. It may, in fact, help in mitigating the climate change effects because the diversity in most of the ecosystems determines their bio-capacity of carbon sequestration. Healthy ecosystems in the vicinity of human settlements also increase local people's adaptive capacity, reducing their vulnerability to climate change.

Dr Chhavi Nath Pandey, who retired as the Principal Chief Conservator of Forests & Head of the Forest Force, Gujarat, is currently Professor of Practice at IIT Gandhinagar. He has also served as the Chief Wildlife Warden of Gujarat and the Director, Gujarat Ecological Education and Research (GEER) Foundation, Gujarat and the Chairperson of the Expert Appraisal Committee for Environment Clearance for Industry I Sector, Ministry of Environment, Forest and Climate Change, Government of India.

RESEARCH

Nine sponsored research and consultancy projects relating to sustainable development were initiated at the Institute during July to December 2022.

- Assessment of flood at the project location in Vadnagar, Government of Gujarat; PI: Pranab Kumar Mohapatra
- Design and development of a cyber-physical system for cyber security assessment in smart distribution grid, Newcastle Research and Innovation Institute; PI: Naran M Pindoriya
- Development of Climate Projections and Scenarios Database at All India Level, Indian Institute of Management Ahmedabad; PI: Vimal Mishra
- Explicit stochastic model predictive control for an energy system under operational uncertainties, Science and Engineering Research Board (SERB); PI: Hari Sai Ganesh
- High resolution crop mapping and irrigation mapping for Karnataka, Advanced Centre for Integrated Water Resources Management; PI: Vimal Mishra
- IITGN-KISEM Industry energy assessment, Indian Institute of Technology Madras; PI: Naran M. Pindoriya and Pranab Kumar Mohapatra
- Northern Indian Ocean holocene eustatic sea-level record (Lakshadweep archipelago), SERB; PI: Pankaj Khanna
- Reconstruction of human-animal interaction at the world heritage Harappan site of Dholavira, Gujarat, India: Inferences from isotopic composition of archaeological bone and teeth remains, SERB; PI: Sharada Channarayapatna
- Topographic and climatic controls on surface - groundwater dynamics, ravine land development and its implications on social welfare and development planning, WIN Foundation; PI: Vikrant Jain

IITGN faculty published nearly 60 journal papers, books/ book chapters, conference papers, or newspaper/ magazine articles in various sustainability areas during July to December 2022:

Water

- Bhagat, C.; Kumar, M.; Mahlknecht, J.; Hdeib, R. and Mohapatra, P. K., "Seawater intrusion decreases the metal toxicity but increases the ecological risk and degree of treatment for coastal groundwater: an Indian perspective", *Environmental Pollution*, DOI: 10.1016/j.envpol.2022.119771, Jul. 2022.
- Aiyadurai, A., "Even after a century, water is still the marker of India's caste society", *TheWire.in*, Aug. 23, 2022.
- Khandelwal, A.; Vijay, A.; Jadhav, D. A.; Lens, P. N. L.; Swaminathan, J.; Ghosh, P. C. and Chendake, A. D., "Genesis and recent advancement in microbial fuel cells: wastewater treatment and resource recovery perspectives", in *Novel approaches towards wastewater treatment and resource recovery technologies*, DOI: 10.1016/B978-0-323-90627-2.00016-2, Amsterdam: Elsevier, pp. 23-36, Aug. 2022, ISBN: 9780323906272.
- Jain, V.; Karnatak, N.; Raj, A.; Shekhar, S.; Bajracharya, P. and Jain, S., "Hydrogeomorphic advancements in river science for water security in India", *Water Security*, DOI: 10.1016/j.wasec.2022.100118, vol. 16, Aug. 2022.
- Gopikrishna, B. S. and Mohapatra, P. K., "Effect of Indira Sagar dam on the health assessment of Narmada river", in *Groundwater and water quality: hydraulics, water resources and coastal engineering*, DOI: 10.1007/978-3-031-09551-1_8, Switzerland: Springer, pp. 105-118, Oct. 2022, ISBN: 9783031095511.
- Joshi, M.; Kumar, M.; Srivastava, V.; Kumar, D.; Rathore, D. S.; Pandit, R.; Graham, D. W. and Joshi, C. G., "Genetic sequencing detected the SARS-CoV-2 delta variant in wastewater a month prior to the first COVID-19 case in Ahmedabad (India)", *Environmental Pollution*, DOI: 10.1016/j.envpol.2022.119757, vol. 310, Oct. 2022.
- Silori, R.; Shrivastava, V.; Singh, A.; Sharma, P.; Aouad, M.; Mahlknecht, J. and Kumar, M., "Global groundwater vulnerability for Pharmaceutical and Personal Care Products (PPCPs): the scenario of second decade of 21st century", *Journal of Environmental Management*, DOI: 10.1016/j.jenvman.2022.115703, vol. 320, Oct. 2022.
- Dey, S.; Kumar, A.; Mondal, P. K.; Chopra, D.; Roy, R.; Jindani, S.; Ganguly, B.; Mayya, C.; Bhatia, D. and Jain, V. K., "Ultrasensitive colorimetric detection of fluoride and arsenate in water and mammalian cells using recyclable metal oxalixarene probe: a lateral flow assay", *Scientific Reports*, DOI: 10.1038/s41598-022-21407-w, vol. 12, Oct. 2022.
- Goswami, R.; Neog, N.; Bhagat, C.; Hdeib, R.; Mahlknecht, J. and Kumar, M., "Arsenic in the groundwater of the Upper Brahmaputra floodplain: Variability, health risks and potential impacts", *Chemosphere*, DOI: 10.1016/j.chemosphere.2022.135621, vol. 306, Nov. 2022.

Pollution and Waste Management

- Devra, R.S.; Srivastava, N.; Vadali, M. and Arora, A., "Polymer filament extrusion using LDPE waste polymer: effect of processing temperature", in *the 17th International Manufacturing Science and Engineering Conference (MSEC 2022)*, Indiana, US, Jun. 27-Jul. 1, 2022.
- Patel, K.; Adhikary, R.; Patel, Z. B.; Batra, N. and Guttikunda, S., "Samachar: print news media on air pollution in India", in *the ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies (COMPASS 2022)*, Seattle, US, Jun. 29-Jul. 1, 2022.
- Majhi, S.; Asilo, L. K.; Mukherjee, A.; George, N. V. and Uy, B., "Multimodal monitoring of corrosion in reinforced concrete for effective lifecycle management of built facilities", *Sustainability*, DOI: 10.3390/su14159696, vol. 14, no. 15, Aug. 2022.

Climate Change

- Ambika, A. K. and Mishra, V., "Enhancing drought monitoring and assessment capability in India through high-resolution (250 m) data", *Earth System Science Data*, DOI: 10.5194/essd-2022-81, Jul. 2022.
- Nanditha, J. S. and Mishra, V., "Multiday precipitation is a prominent driver of floods in Indian river basins", *Water Resources Research*, DOI: 10.1029/2022WR032723, vol. 58, no. 7, Jul. 2022.
- Mishra, V.; Tiwari, A. D. and Kumar, R., "A framework to incorporate spatiotemporal variability of rainfall extremes in summer monsoon declaration in India", *Environmental Research Letters*, DOI: 10.1088/1748-9326/ac8c5c, Aug. 2022.
- Aadhar, S. and Mishra, V., "Challenges in drought monitoring and assessment in India", *Water Security*, DOI: 10.1016/j.wasec.2022.100120, vol. 16, Aug. 2022.
- Sankhyan, S.; Zabinskib, K.; O'Brien, R. E.; Coyana, S.; Patel, S. and Vance, M. E., "Aerosol emissions and their volatility from heating different cooking oils

at multiple temperatures", *Environmental Science: Atmospheres*, DOI: 10.1039/D2EA00099G, Sep. 2022.

- Biswas, C., "Mapping animal vulnerability in the context of cyclone and flood disaster in Sundarbans", in *the Animal in Wars & Disasters Symposium*, London, UK, Sep. 3-4, 2022.
- Jena, P. S.; Bhushan, R.; Raj, H.; Dabhi, A. J.; Sharma, S.; Shukla, A. D. and Juyal, N., "Relict proglacial lake of Spituk (Leh), northwest (NW) Himalaya: A repository of hydrological changes during Marine Isotopic Stage (MIS)-2", *Palaogeography, Palaeoclimatology, Palaeoecology*, DOI: 10.1016/j.palaeo.2022.111164, vol. 602, Sep. 2022.
- Das, T. K.; Behera, M.; Jignesh, M. and Akhandanand, S., "Scientometric discovery of research contributions of the journal "nature climate change" during 2011-2020", *Library Herald*, DOI: 10.5958/0976-2469.2022.00029.X, vol. 60, no. 3, pp. 51-67, Sep. 2022.
- Rai, A., "Chasing the ghosts: stories of people left behind on the frontline of climate and ecological crisis", *South African Journal of Psychology*, DOI: 10.1177/00812463221130902, Oct. 2022.
- Rajeev, A.; Mahto, S. S. and Mishra, V., "Climate warming and summer monsoon breaks drive compound dry and hot extremes in India", *iScience*, DOI: 10.1016/j.isci.2022.105377, Oct. 2022.
- Mishra, Vimal et al., "Megadroughts in the common era and the anthropocene", *Nature Reviews Earth & Environment*, DOI: 10.1038/s43017-022-00329-1, Oct. 2022.
- Pandeya, D.; Tiwari, A. D. and Mishra, V., "On the occurrence of the observed worst flood in Mahanadi River basin under the warming climate", *Weather and Climate Extremes*, DOI: 10.1016/j.wace.2022.100520, Oct. 2022.
- Chakravarti, P.; Jain, V. and Mishra, V., "The distribution and hydrological significance of intact rock glaciers in the north-west Himalaya", *Geografiska Annaler: Series A, Physical Geography*, DOI: 10.1080/04353676.2022.2120262, vol. 104, no. 3, pp. 226-244, Oct. 2022.
- Bhasme, P. and Bhatia, U., "Augmenting long short term memory processes with physics informed memory in the hydrological processes for improved predictability and interpretability", in *the 3rd Symposium on Knowledge Guided ML (KGMML-AAAI-22)*, Virginia, US, Nov. 17-19, 2022.
- Rajeev, A. and Mishra, V., "Observational evidence of increasing compound tropical cyclone-moist heat extremes in India", *Earth's Future*, DOI: 10.1029/2022EF002992, Nov. 2022.
- Das, T. K.; Makwana, J. C. and Shukla, A., "Quantitative analysis of scientific literature on climate change in India: A scientometric study", in *the 16th International Conference on Webometrics, Informetrics and Scientometrics (WIS) & 21st COLNET Meeting 2022*, Bangkok, TH, Nov. 10-12, 2022.
- Pandey, A. K. and Mohapatra, P. K., "Three-dimensional numerical simulation of the flood-wave propagation at a combining open-channel junction", *Journal of Irrigation and Drainage Engineering*, DOI: 10.1061/(ASCE)IR.1943-4774.0001713, vol. 148, no. 11, Nov. 2022.
- Mishra, V.; Tiwari, A. D. and Kumar, R., "Warming climate and ENSO variability enhance the risk of sequential extremes in India", *One Earth*, DOI: 10.1016/j.oneear.2022.10.013, vol. 5, no. 11, pp. 1250-1259, Nov. 2022.
- Ossandón, Á.; Rajagopalan, B.; Tiwari, A. D.; Thomas, T. and Mishra, V., "A Bayesian hierarchical model combination framework for real-time daily ensemble streamflow forecasting across a rainfed river basin", *Earth's Future*, DOI: <https://doi.org/10.1029/2022EF002958>, Dec. 2022.
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Energy

- Makani, N. H.; Singh, M.; Paul, T.; Sahoo, A.; Nama, J.; Sharma, S. and Banerjee, R., "Photoelectrocatalytic CO2 reduction using stable lead-free bimetallic CsAgBr2 halide perovskite nanocrystals", *Journal of Electroanalytical Chemistry*, DOI: 10.1016/j.jelechem.2022.116583, Jul. 2022.
- Gupta, P. R.; Shanmukham, S. P.; Patel, C. G.; Leinhard, J. H. and Swaminathan, J., "Replacing chloride anions in dyeing enables cheaper effluent concentration and recycling", *Desalination*, DOI: 10.1016/j.desal.2022.115761, vol. 533, Jul. 2022.
- Jani, V.; Rasyotra, A.; Gunda, H.; Ghoroi, C. and Jasuja, K., "Titanium diboride (TiB2) derived nanosheets enhance the CO2 capturing ability of calcium oxide (CaO)", *Ceramics International*, DOI: 10.1016/j.ceramint.2022.07.181, Jul. 2022.
- Sethulakshmi, N.; Mohan, A. and Sharma, S., "Nanocrystal CuCoNiS4: enhancement in the electrochemical capacitance by Ni incorporation in CuCo2S4", *Journal of Energy Storage*, DOI: 10.1016/j.est.2022.104912, vol. 52, Aug. 2022.
- Dhruv, D. K.; Patel, B. H.; Agrawal, N.; Banerjee, R.; Dhruv, S. D.; Patel, P. B. and Patel, V., "Synthesis, electrical transport mechanisms and photovoltaic characteristics of p-ZnIn2Se4/n-CdTe thin film heterojunction", *Journal of Materials Science: Materials in Electronics*, DOI: 10.1007/s10854-022-08755-z, Aug. 2022.
- Mir, A. Q.; Saha, S.; Mitra, S.; Guria, S.; Majumder, P.; Dolui, D. and Dutta, A., "The rational inclusion of vitamin B6 boosts artificial cobalt complex catalyzed green H2 production", *Sustainable Energy & Fuels*, DOI: 10.1039/D2SE00734G, Aug. 2022.
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- Bansal, V.; Khoiwal, R.; Shastri, H.; Khandor, H. and Batra, N., "I do not know: quantifying uncertainty in neural network based approaches for non-intrusive load monitoring", in *the 9th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (BuildSys '22)*, Boston, US, Nov. 9-10, 2022.
- Shukla, A. K.; Mitra, S.; Dhakar, S.; Maiti, A.; Sharma, S. and Dey, K. K., "Electrochemical energy harvesting using microbial active matter", *ACS Applied BioMaterials*, DOI: 10.1021/acsbm.2c00785, Dec. 2022.
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Natural Resources, Wildlife and Ecosystems

- Patel, P. P.; Guha, S.; Das, D. and Bose, M., "Spatial variability of topographic attributes and channel morphological characteristics in the Ladakh Trans-Himalayas and their tectonic and structural controls",

in *Himalayan neotectonics and channel evolution*, DOI: 10.1007/978-3-030-95435-2_3, Switzerland: Springer Nature, pp. 67-110, Jul. 2022, ISBN: 9783030954352.

- Sarkar, A. and Chanda, A., "Structural performance of a submerged bottom-mounted compound porous cylinder on the water wave interaction in the presence of a porous sea-bed", *Physics of Fluids*, DOI: 10.1063/5.0106425, Aug. 2022.
- Biswas, C. and Channarayapatna, S., "Marginalisation of Sundarbans' Marichjhapi: ecocriticism approaches in Amitav Ghosh's the hungry tide and Deep Halder's blood island", *Literature*, DOI: 10.3390/literature2030014, vol. 2, no. 3, pp. 169-178, Aug. 2022.
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- Ramdani, A.; Khanna, P.; Gairola, G. S.; Hanafy, S. and Vahrenkamp, V., "Assessing and processing three-

dimensional photogrammetry, sedimentology, and geophysical data to build high-fidelity reservoir models based on carbonate outcrop analogues", *AAPG Bulletin*, DOI: <https://doi.org/10.1306/05152221092>, vol. 106, no. 10, Oct. 2022.

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- Chanda, A.; Sarkar, A. and Bora, S. N., "An analytical study of scattering of water waves by a surface-piercing bottom-mounted compound porous cylinder placed on a porous sea-bed", *Journal of Fluids and Structures*, DOI: 10.1016/j.jfluidstructs.2022.103764, vol. 115, Nov. 2022.
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- Kansara, K. and Bhatia, D., "High throughput approaches for engineered nanomaterial-induced ecotoxicity assessment", in *Environmental toxicology and ecosystem*, DOI: 10.1201/9781003244349-10, Boca Raton: CRC Press, Dec. 2022, ISBN: 9781003244349.
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EDUCATION

Nearly 20 short courses, training programmes, seminars, workshops, conferences, and symposia were organised by the Institute on a wide range of topics related to sustainable development.

SHORT COURSES AND TRAINING PROGRAMMES

- Electric machines and drives in Electrified Transportation Systems; GIAN course; July 18 to 22, 2022
- Training program for officers of Gujarat Urja Vikas Nigam Limited (GUVNL) by Prof Naran M Pindoriya; June 23 to August 15, 2022
- Sewage management for Military Engineer Services (MES) officers by Prof Sudhir Kumar Arora and Prof Chinmay Ghoroi; August 24-26, 2022

SEMINARS

- Formulation and demonstration of a technique to assess the incinerability of municipal solid waste by Dr Roshni Mary Sebastian, Postdoctoral Fellow, Department of Mechanical Engineering, University of Alberta, Canada; Sabarmati Young Researcher Seminar; July 18, 2022
- Technology driven approaches for addressing societal challenges: Case studies in smart cities, energy, water management and agriculture by Prof Parag Kulkarni, Associate Professor, Department of Computer and Network Engineering, the College of IT, UAE University; July 25, 2022
- Advancing the representation of human-water interactions in macro-scale hydrological models by Dr Stefano Galleli, Associate Professor, Singapore University of Technology and Design; Civil Engineering Seminar; September 8, 2022
- Temperature-dependent dielectric properties, piezoelectricity, and energy harvesting in halide perovskites by Prof Rupak Banerjee, IIT Gandhinagar; Invited Talk at International Conference on Smart Materials for Sustainable Technology (SMST-2022), IIT Bombay; October 13 to 16, 2022
- Human-animal relations across time and space: Case studies of recent approaches and novel perspectives by Prof Sharada C V, IIT Gandhinagar; ASC Webinar; October 29, 2022
- Dynamic optimization of indoor air quality, energy consumption, and thermal comfort; Invited talk at Indian National Science Academy, Delhi by Prof Sameer Patel,

IIT Gandhinagar; November 7, 2022

- Holocene sea-level fluctuations along Arabian Peninsula; Invited talk at Colloquium at College of Petroleum Engineering & Geosciences by Prof Pankaj Khanna, IIT Gandhinagar; November 9, 2022
- Drivers and implications of regional and global flash droughts by Shanti Shwarup Mahto, PhD Candidate, Earth Sciences, IIT Gandhinagar; December 10, 2022

WORKSHOPS, CONFERENCES AND SYMPOSIA

- Native glass of India and its archaeological significance by Prof Alok Kumar Kanungo at the 25th International Conference of the European Association for South Asian Archaeology and Art, Barcelona, Spain; July 4 to 8, 2022
- Emerging approaches in earthquake occurrence and risks, sponsored by SERB; July 5 to 12, 2022
- Water 4 Change; July 9 to 12, 2022
- Iron technology in medieval Kerala: Scientific analysis of iron artefacts from Triprangode by Qureshi, Md. Rizwan A., Alok Kumar Kanungo, Amit Arora and K. Krishnaraj at the Young Researchers in Archaeometry – 5, Austrian Academy of Sciences (ÖAI) / Austrian Archaeological Institute (ÖAW); September 5 to 6, 2022
- Resilience of power and allied lifeline infrastructure systems; September 26, 2022
- E-mobility in India: Safety and the way forward, organised by Centre for Safety Engineering, IIT Gandhinagar; September 26 to 28, 2022
- Indigenous cultural heritage as a facilitator for the Sustainable Development Goals under the Ministry of Education, Govt. of India, IIT Gandhinagar; September 26 to 29, 2022
- Glass ornaments technology in the Indian Ocean by Prof Alok Kumar Kanungo at the Internal Conference on India and Indian Ocean, Tamil University - Centre for Indian Ocean Studies, Thanjavur; October 13 to 15, 2022
- Ameh-anji and Ili-amra: Boar hunting and pig sacrifice among the Idu Mishmis' by Prof Ambika Aiyadurai in a workshop 'What is hunting? Anthropological perspectives of Boar hunting' at the Institute of Ethnology, Czech Academy of Sciences, Prague, Czech Republic; November 27 to 30, 2022
- 16th IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS) on the theme of 'Scalable, Secure, and Sustainable Connectivity for All', IIT Gandhinagar; December 18 to 21, 2022