

राष्ट्रियान् तान्त्राग्न्यान् अनुवादान्

DEPARTMENT OF SCIENCE AND TECHNOLOGY

NITTE UNIVERSITY TECHNOLOGY ENABLING CENTRE



DST NU-TEC Chronicle | Oct 2023 to Jan 2024

<p>वार्ता Startup Nitte 2023 Incubation facilities for startups - Creating impact in the startups ecosystem World Food Day 2023</p>	01	<p>लवणवृक्ष वारंइहान Handholding professionals</p>	10
<p>रादेव्यान इअलभेहइहान Lecture on patient safety, pharmacovigilance & materiovigilance Recent trends in agri-sector and entrepreneurship opportunities Indo-Norway workshop on aquatic animal health management</p>	05	<p>राष्ट्रियान् प्राइडारान Science outreach</p>	11
<p>द्व्यान् इअनपुजान Collaborative meetings Networking</p>	08	<p>टेड कार्याकारता Team members of DST TEC Nitte (DU)</p>	15

START-UP NITTE

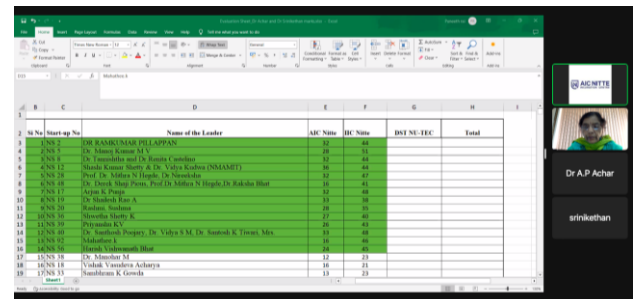
Young entrepreneurs development program 'STARTUP-NITTE' was initiated by Atal Incubation Centre, Institution Innovation Council and DST Technology Enabling Centre Nitte (DU) to provide a platform for students and faculty members of Nitte (DU) to build start-up around their ideas and research projects. The inaugural ceremony of start-up Nitte was organized on 04 Sept 2023 followed by the event wherein top 100 ideas were shortlisted from 165 applications received. They were presented to team of experts in the business idea conclave held on 14 Oct 2023. The top 26 ideas were selected by the experts from various fields for bootcamp session. The selected candidates are currently undergoing the preincubation training and will be further supported for prototype development to enable them to develop a structured business model.



First level of screening (presentation): 14 Oct 2023

Orientation program: 21 Oct 2023

Registration start date : 04 Sept 2023 Registration end date : 30 Sept 2023
Total number of start-up applications received: 165 Number of start-ups selected for first level screening : 100
First level screening (presentation): 14 Oct 2023
Number of start-ups selected after the first level screening for boot camp: 26
Boot camp: 21- 31 Oct 2023 (4 sessions) Second level screening: 7 Nov 2023
Number of start-ups selected for pre-incubation: 15
Orientation: 21 Oct 2023
Pre-incubation session: 02-27 Jan 2024 (8 sessions)
Final screening: 08 Feb 2024



Evaluation of Start-up Nitte

INCUBATION FACILITIES FOR START-UPS - CREATING IMPACT IN THE START-UP ECOSYSTEM

09 Dec 2023



Team TEC attended the Symposium on Incubation Facilities for Start-ups - Creating Impact in the Start-ups Ecosystem organized by Kanara Chamber of Commerce and Industry (KCCI) on Saturday, 09 Dec 2023 at KCCI Meeting Hall, Chamber Building, Bunder, Mangaluru. KCCI President Ananthesh V Prabhu, gave the introductory remarks and mentioned how KCCI along with a start-up sub-committee headed by Mr Vishwas Shishir, is striving hard to nurture and support start-up ecosystem in this region of the state (Mangalore). Mr Vishwas Shishir, Chairman of start-up sub-committee in his address highlighted how institutions and universities can be hub of start-up and innovation. He also explained how young minds can avail the facilities to start their venture.

Dr Inv. Shivakiran Makam, CEO, Atal Incubation Centre, Sri Krishnadevaraya University, Anantapur was the speaker of the symposium and spoke on the topic – Understanding incubation dynamics. The speaker provided valuable insights on new era in Modern India that is focused on entrepreneurship ecosystem. He stated how incubators act as catalysts to bridge the gap between industry and academia. He gave a gist of incubators present in country, roadmap to start-ups, details of funding schemes and how students can focus on regional resources to bring out innovation. He stressed that start-ups should focus on both innovation as well as revenue generation. He also stated that incubators have the potential to contribute to the economic growth of the region as well as the country and beyond that incubators act as breeding ground for start-ups. He further addressed various queries of the audience. The presentation was followed by a panel discussion moderated by Mr Anand Kannan, Director, Global Services, IFIA, Bengaluru. The panellists included, Mr Asim Syed Sheeraz, CEO, Yenepoya Technology Incubator, Mr Deepthi Prabhu, Co-Founder, Herb Fusion, Ms Jnanashree Arjun Rao, Senior Branch Manager, Bank of Baroda, Bondel branch. The symposium brought together incubators, entrepreneurs and start-ups, aspirant students, business owners, bankers and stakeholders under common roof leading to a very productive discussion session and networking.

Team TEC Nitte, could interact and establish network with Dr Francisca Tej, WiZdom Institutions Network, Mangalore; Mr Shrikar, Meditation Trainer, Heartfulness Institute, Mangalore; Mr Ashley, Vivekananda College of Engineering and Technology, Puttur. Dr Ashajyothi Rai, Chairperson, Chiraayu Ayurveda Clinic expressed her desire to collaborate with TEC, Nitte for evidence-based trials under Ayush Systems. Team TEC actively interacted with students and faculty of PA First grade college who expressed their interest in development of fisheries based technologies.

WORLD FOOD DAY 2023

27 Oct 2023

University Auditorium, Paneer Campus, Nitte DU



DST Technology Enabling centre and NUCSER jointly organized “World Food Day 2023”. The event was combination of food day theme-related talks, food fest and various competitions for students making an effort to actively enroll and bring under a common roof experts in the field, students, staff, and stakeholders. Every year on October 16, people worldwide come together to commemorate the founding of the Food and Agriculture Organization. The theme of World Food Day 2023 is ‘Water is Life, Water is Food. Leave No One Behind.’ Water Conservation journalist, Mr Shri Padre, Rtd Principal Scientist CFTRI, Mysore, Dr Annu Appaiah, Rtd Senior Fishery Officer, FAO, and advisor research and patents, Prof Dr Iddya Karunasagar and Director TEC Prof Dr Indrani Karunasagar delivered the keynote lectures. Prof Dr Smitha Hegde welcomed the audience and Prof Dr Iddya Karunasagar introduced the keynote speakers.

Prof Dr Indrani Karunasagar gave a keynote lecture on the water- the elixer of life. She briefed on how anthropogenic activities deteriorate water quality. She further explained how the detection of indicator organisms provides a simple, rapid, and cost-effective technique to monitor pathogens and how their presence is indicative of water contamination. For the benefit of students, she explained various principles, techniques, and enumeration rules for analyzing the data. She detailed on standards set by WHO to meet drinking water quality and also explained various waterborne diseases. A discussion session was followed at the end of each lecture. The program ended with a vote of thanks proposed by Dr Mamatha, HoD, Food Safety and Biotechnology, NUCSER.

Journalist Mr Sree Padre, who specializes in water conservation, began his talk by calculating rainwater using daily life scenarios as examples and actively interacted with students. With several photographic/video recordings, he explained various rainwater harvesting measures. Rain pits, rain catchment areas, recharge wells and other undocumented traditional water harvesting measures experimented in various states, especially Rajasthan and Gujarat areas were discussed. He mentioned the commendable work done by the Paani Foundation towards water conservation and also explained how mismanagement of drainage system and other water channels in urban areas leads to floods. He inspired the audience to become water literate and to use basic rainwater-gathering techniques for a sustained utilization of this precious resource.



Dr Anu Appaiah addressed a significant issue of food labeling and gap between what consumers know and what food labels say. He explained how food labels act as a tool to help customers choose food wisely while considering their dietary requirements, personal preferences, and health-related issues. With relevant examples, he explained how marketing strategies and labels can mislead consumers on nutritional value, health claims or deceptive wording.



Dr Iddya Karunasagar in his keynote lecture spoke about the vast magnitude of global food exports and regulations laid by WTO. He briefed about the effort of FAO and WHO on setting Codex Alimentarius guidelines that aim at ensuring food safety by setting international standards to be abided by member countries. His words also showered light on the theme referring to the importance of water in the evolution of life, and the depleting water source, and he also gave a call for optimum usage of water. He gave an estimate of water footprints or volume of water consumed in the production of meat, in paddy fields and how the quality of water plays a critical role in food production. He concluded by giving an insight into the global hunger index 2023 and a vision for a better and hunger-free India.



LECTURE ON PATIENT SAFETY, PHARMACOVIGILANCE & MATERIOVIGILANCE

03 Nov 2023



DST Technology Enabling Centre in collaboration with NGSMIPS organised a lecture talk on “Patient safety, pharmacovigilance and materiovigilance in India” on 03 Nov 2023 in the University Auditorium, Paneer Campus. Dr Bikash Medhi, Professor, Department of Pharmacology, PGIMER Chandigarh was the invited expert speaker. Prof. Dr Iddya Karunasagar welcomed the guest, gathering and he briefed about the different training modules provided by FSSAI in regards to vigilance. Prof Dr C.S. Shastry spoke about the NABL laboratory accreditation and introduced the guest to the audience. Addressing the gathering, Dr Bikash Medhi explained the functioning of Indian pharmacopeia commission. He also spoke about the breakthrough article of thalidomide published in the Lancet which led to the USFDA actions. Further he explained on various aspects of pharmacovigilance and materiovigilance with his practical experience.

RECENT TRENDS IN AGRI-SECTOR AND ENTREPRENEURSHIP OPPORTUNITIES

03 Oct 2023



A lecture by Dr K. Narayanan Founder Director Sthayika Seeds Pvt Ltd, Bangalore on "Recent trends in Agri Sector and Entrepreneurship opportunities" was jointly organised by DST NUTEC and NUCSER. The session was attended by over 100 participants including Mr. Giridhar Prabhu, former President and Mr Ahmed Mudassar, Secretary, Kanara Chamber of Commerce and Industries (KCCI), faculty and students from NUCSER and from St Aloysius College, Mangalore.

Dr K. Narayanan is an eminent agricultural technology expert, an investor, mentor, CEO and founder-chairman of several companies in Agri Sector. He is a pioneer plant breeder, with a rich experience in academia and industry. Prof. Iddya Karunasagar welcomed the gathering and introduced the guest speaker to the audience. He gave a brief description of various companies headed by Dr K Narayanan two of which have been acquired by the TATAs. Prof. Smitha Hegde, Deputy Director, NUCSER in her address referred to how we as humans are exploiting nature and need to shift our focus to more sustainable innovations.

Dr K Naryanan in his lecture explained how agri-innovation and entrepreneurship are demonstrating their potential impact around the world. He highlighted how the agri-business sector offers many opportunities for innovation and entrepreneurship, especially in the context of global challenges like increasing population which in turn increases the demand and growing urbanization, that affect food and agriculture. He also mentioned how climate change can affect agricultural businesses and how changing pest dynamics leads to economic burden. Advancing technology such as biotechnology, gene editing, digital technology, or nanotechnology can help to improve efficiency and quality of the innovation. He mentioned how several agri-startups, are innovating and competing along the line with the Internet of Things (IoT) making application of technology more real-time and establishing better connections between farmers and industrialists.

Dr K Naryanan urged that it is important to scale up from primary agriculture practices to producing value-added products from agricultural produce and development of products from agri-waste for a better economic benefit, especially for the farmers. He gave a comparative analysis of agricultural GDP per economically active person in agriculture in India and globally. Lastly, he mentioned the importance of nurturing nature, along with developing modern high-end technologies that are sustainable and can also aid in water replenishments, waste management, livestock management, and so on, and help to meet the nutrient requirements of society. He gave a glance of precision farming and introduced the audience to biopharming which includes the use of crops for the bio-production of recombinant enzymes or antibodies which can offer tremendous economic and health benefits.

The lecture gave a balanced view on ecology, economy, equity, and entrepreneurship to all the students and faculty present at the event. The lecture was followed by a discussion session. Dr Sudharshan Kini, faculty, NUCSER proposed the vote of thanks.



INDO-NORWAY WORKSHOP ON AQUATIC ANIMAL HEALTH MANAGEMENT

05 Dec 2023



The DST Technology Enabling Centre along with NUCSER organized an Indo-Norway workshop on Aquatic Animal Health Management on 05 Dec, 2023. This workshop discussed joint projects between Nitte University and Nord University, Bodo, Norway, which are dealing with technologies such as vaccine development and delivery in aquaculture as well as bacteriophage therapy that can serve as an alternative to antibiotics in aquaculture.

Dr Anirban Chakraborty, Director, NUCSER welcomed all speakers and delegates. Dr Indrani Karunasagar, Director (projects) explained the background of the workshop, joint collaboration ongoing with Norway and joint publications that came out of the collaboration. She recalled the excellent experience of the Indian delegation led by her consisting of Dr Anirban Chakraborty, Dr Biswajit Maiti along with two PhD scholars during their visit to Nord University. Dr Iddya Karunasagar emphasized the importance of aquaculture in fish production globally and in India. Dr Hetroney Mweemba Munang'Andu, Professor, Nord University highlighted the importance of international collaboration to bring in complementary expertise and experience.

INTERACTION WITH GOVERNMENT AND INTERNATIONAL ORGANIZATIONS



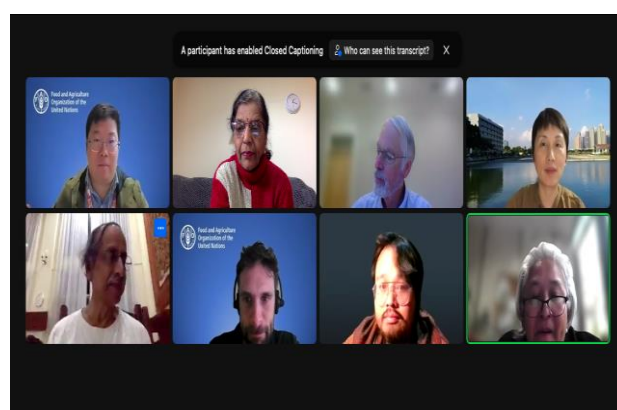
24 Nov 2023: An awareness program for food testing laboratories about NABL accreditation & its benefits was conducted by National Accreditation Board for Testing and Calibration Laboratories (NABL) in collaboration with DST TEC at Mangaluru. Team TEC attended the one day workshop and interacted with participants to understand the constraints for setting up NABL accredited lab.



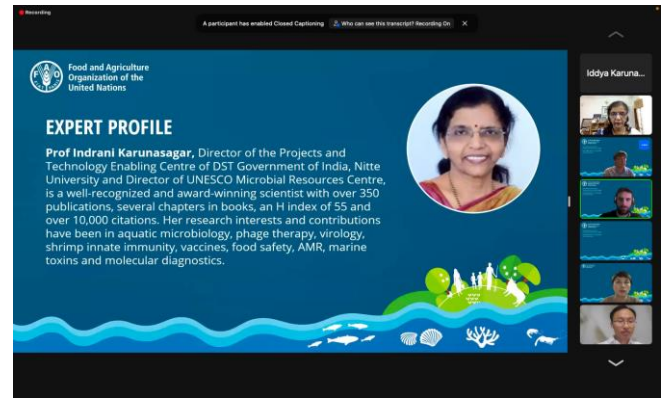
15 Nov 2023: Ms. Ekroop Caur, IAS, Secretary, ITBT and S &T, Government of Karnataka visits TEC facility for discussions regarding incubation and project formulation related to aquaculture and Marine Biotechnology in fisheries research.



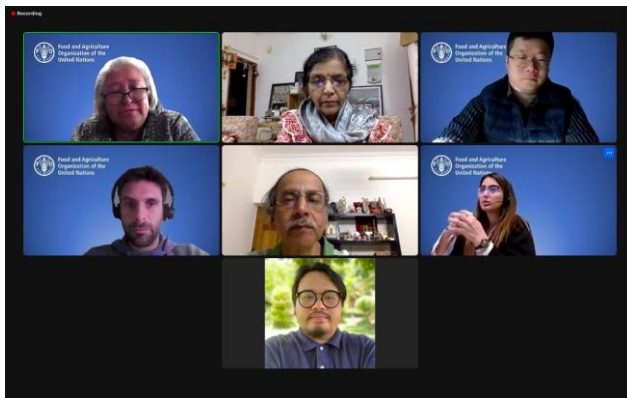
18 Dec 2023: Dr Indrani Karunasagar participated in WOAH meeting on setting guidelines for monitoring antimicrobial use in aquaculture at the field/farm level.



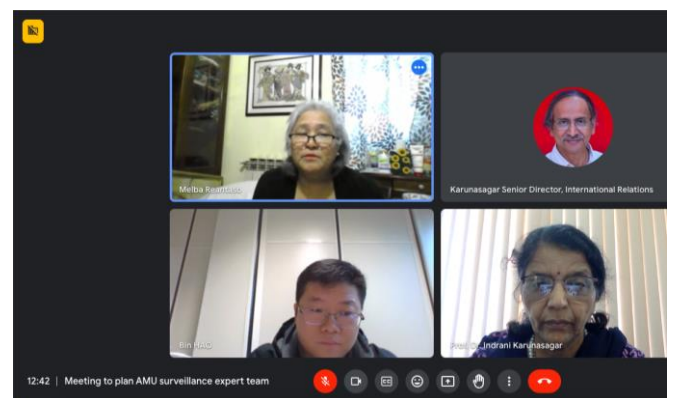
18 Oct 2023: Meeting of FAO reference center in US, China & India to discuss the action plan & activities for the forthcoming year.



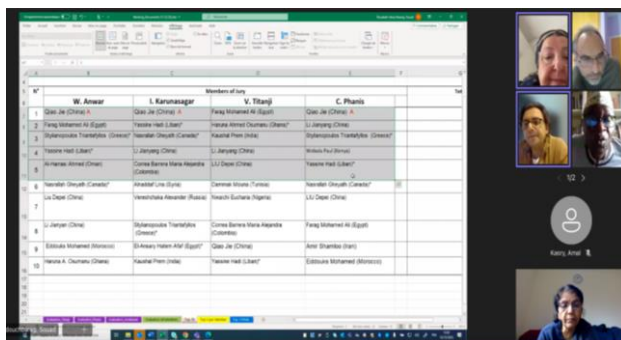
27 Nov 2023: FAO along with four reference centers organized a webinar “Avoiding AMR together: Ensuring healthy and safe Aquatic foods” in connection with the antibiotic awareness week, which was attended by 200 participants. Dr Iddya Karunasagar spoke on “Aquatic organisms of zoonotic concern” and Dr Indrani Karunasagar spoke on “AMR and One Health”.



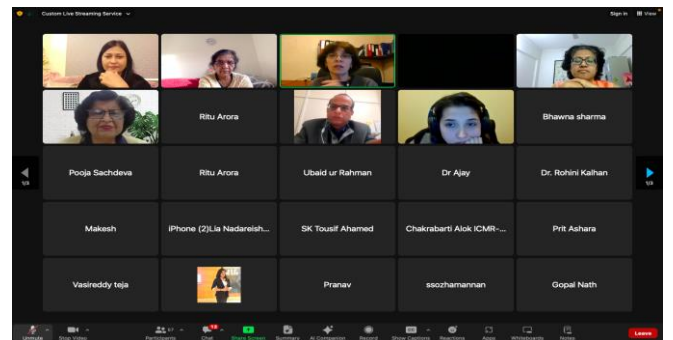
22 Jan 2024: FAO had a zoom meeting with Dr Indrani Karunasagar and Dr Iddya Karunasagar regarding development of risk profile for *Vibrio parahaemolyticus* using an expert team.



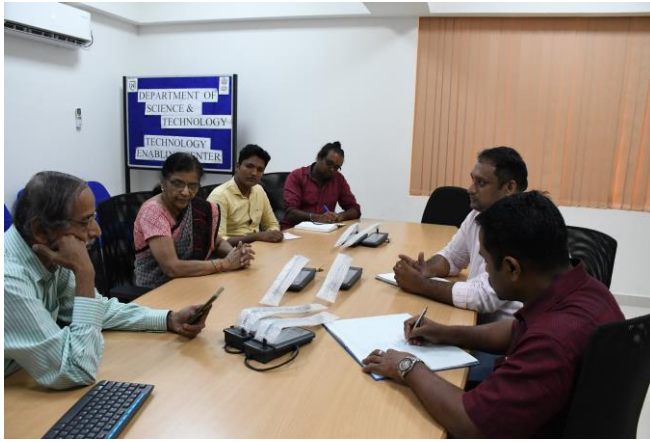
29 Jan 2024: NITTE FAO Reference Center was assigned responsibility for developing checklist for antimicrobial use surveillance in aquaculture. The composition of the expert team was discussed with FAO.



12 Dec 2023: Dr Indrani Karunasagar was the jury member for the international life science UNESCO Equatorial Guinea prize for the outstanding in any area of life science.



22 Dec 2023: Dr Indrani Karunasagar contributed to the webinar on Georgia’s experience & perspectives on phage therapy organized by Phage Society. Dr Mzia Kutateladze, Director George Eliava Institute Tbilisi, Georgia was the resource person.



25 Nov 2023: Mr Lijo Jose & Mr Arun Paul involved in shrimp aquaculture visited TEC to discuss on management of shrimp disease in culture ponds located at Thalassery.



30 Nov 2023: Ms Deepti Dinesh Prabhu & Mr Aravinda Pai, founder & cofounder of Herbal fusion discussed on product labeling & various tests required for laboratory validation.



29 Dec 2023: Mr Ranjith, entrepreneur from Shivamogga involved in development of fertilizer from cow dung discussed about the product characteristics and forming a company.

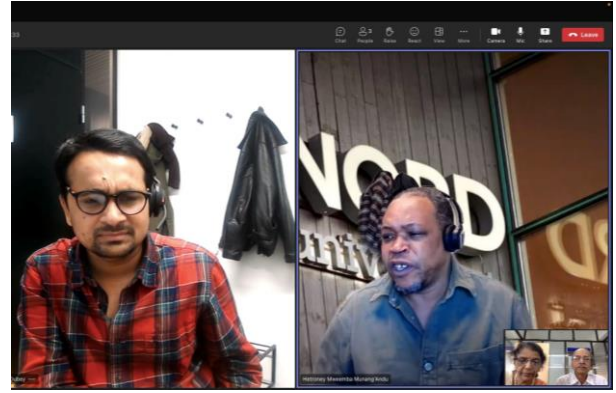


25 Nov 2023: Mr Vishwas Rao, Regional Director, International Federation of Inventors Association (IFIA) & Mr Karthik discussed on startup meet "Emerge-2024" to boost entrepreneur spirit in this region.

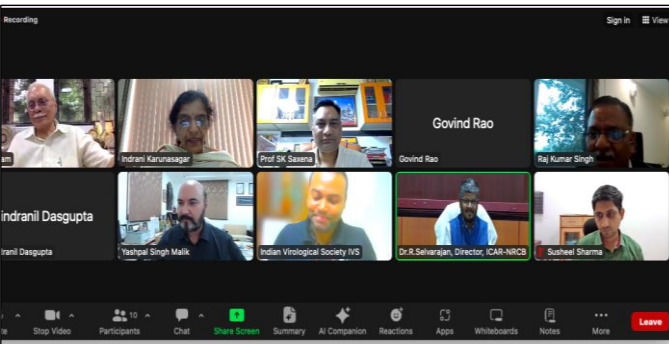


16 Jan 2024: Dr Karthik Baruah from University of Upsala, Sweden visited TEC & discussed on possible international projects in aquaculture.



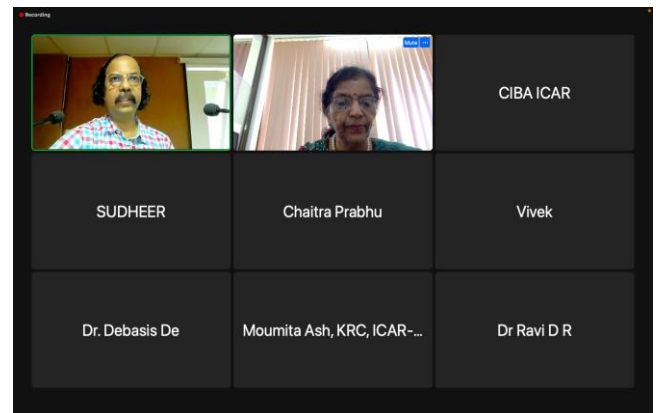
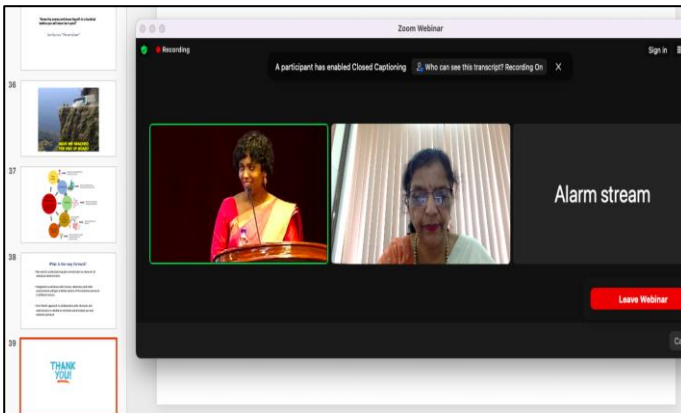


2 Nov 2023 & 15 Dec 2023: DST TEC enabled discussion on project development to understand AMR in aquaculture with scientists from University of Bodo Norway.



02 Nov 2023: Dr Indrani Karunasagar was involved in the selection of awardees for various national awards; oration award, fellowships of IVS, young scientist award, travel grant & Springer nature publication award.

01 – 03 Dec 2023: Dr Iddya Karunasagar & Dr Indrani Karunasagar delivered a lead talk under the theme - Phages and Phage Therapy in VIROCON-2023, jointly organized by ICAR-National Research Centre for Banana, Tiruchirappalli, & the Indian Virological Society (IVS), New Delhi at “Hotel Courtyard by Marriot”, Tiruchirappalli.



17 Nov 2023: Dr Indrani Karunasagar delivered a guest lecture on One Health Approach in AMR – Issues and Concerns in ALARM-2023 organized by Amrita Vishwa Vidyapeetham.

22 Nov 2023: Dr Indrani Karunasagar delivered a talk on “Dissemination of AMR in environment through waste water” organized by CIBA.



10-13 Oct 2023: Dr Iddya Karunasagar chaired a session on “Genetics, Health and Nutrition” under the theme “Aquaculture and Fisheries based Transformation of food systems” at the XVI Agriculture Science Congress organized by the National Academy of Agricultural Sciences at Kochi, Oct 10-13, 2023. Scientists from Norway and different parts of India delivered keynote lecture, lead lecture and oral presentation in this session.



16-26 Oct 2023: Dr Iddya Karunasagar was in Phnom Penh, Cambodia, Oct 16-26 to support the Fisheries Administration, Cambodia in implementing international best practices in import control of aquaculture inputs. This activity was under a UNIDO project in Cambodia. Since Cambodian aquaculture depends to a large extent on imports of inputs like broodstock, fish seeds, fish feed and even market ready fish, it is important that the import control activities are carried out as per recommendations of World Organization of Animal Health (WOAH) Aquatic Animal Health Code. Dr Iddya Karunasagar met with senior officers of General Directorate of Customs and Excise and explained about risk based approach in import control.



6-8 Nov 2023: Under a project funded by the International Trade Center (ITC) of United Nations, Dr Iddya Karunasagar delivered three training workshops in Malaysia. The first workshop (Nov 6-8, 2023) was intended to provide training on conducting import risk analysis following the guidelines of World Organization of Animal Health (WOAH) Aquatic Animal Health Code. The second Workshop (Nov 9-11, 2023) provided training to the Officers of Department of Fisheries, Malaysia on aquatic animal disease surveillance. Both these were held in Penang, while the third workshop (Nov 13-17, 2023) provided training on the implementation of Hazard Analysis Critical Control Point (HACCP) in fish processing to achieve food safety. This was mainly focused on Fisheries Officers at Kota Kinabalu in the State of Sabah in Malaysia.



12-14 Dec 2023: Dr Iddya Karunasagar delivered training on application of Hazard Analysis Critical Control Point (HACCP) in fish processing in Phnom Penh, Cambodia, 12-14 Dec 2023 under EU funded CAPFISH CAPTURE project implemented by UNIDO. Dr Lahsen Ababouch, former Director of Fisheries Division of FAO was another resource person. This programme was intended as training of trainers and there were 26 officers from Fisheries Administration Cambodia, who have been trained earlier as auditors for Quality Seal, Cambodia. The programme involved practical sessions with participants going through different steps of HACCP implementation for different fish processing industries.



29 Nov 2023: Dr Iddya Karunasagar was the Guest of Honour at the inauguration of the Third International Conference on Aquatic Animal Epidemiology (Aqua Epi III) at the National Bureau of Fish Genetic Resources, Lucknow on 29 Nov 2023. The other guests included Dr Kenton Morgan from UK and Dr Edgar Brun from Norway. Dr Iddya Karunasagar also chaired scientific sessions at this International Conference.



4 Jan 2024: Dr Iddya Karunasagar delivered an invited talk on “Seafood Safety and International Trade–A Regulatory perspective” at the DBT-sponsored National Seminar on Seafood Safety organized by ICAR Central Institute of Fisheries Education (Deemed University), Mumbai on 04 Jan 2024. Participants for this seminar came from different ICAR Institutes, Universities and fish processing industry from India.

**NOBEL PRIZE
PHYSIOLOGY OR MEDICINE
2023**

Katalin Karikó
Drew Weissman

**Distinguished talk on
"DEVELOPMENT OF
EFFECTIVE MRNA VACCINES
AGAINST COVID-19"**

Speaker
Prof. Dr. Indrani Karunasagar
Director (Projects & DST-TEC), NITTE University
Head, FAO Reference Centre for Antimicrobial
Resistance & Aquaculture Biosecurity
Member, Electronic Expert Group on Antimicrobial Use,
World Organization for Animal Health
Director, UNESCO Resources Center for Biotechnology
Coordinator, M.Sc Marine Biotechnology (DBT), NUCSER

November 10, 2023 [Friday]
2.15 pm - 3.15 pm

JOINING LINK
<https://tinyurl.com/mrx7x86x>
Webinar No: 2511 384 1448
Webinar Password : nbls@2023A (62557321 from video system)

10 Nov 2023: Dr Indrani Karunasagar delivered a distinguished talk on "Development of effective mRNA vaccine against COVID-19" organized by KSTA.



NITTE JUSTICE K S HEGDE CHARITABLE HOSPITAL
DEPARTMENT OF NUTRITION & DIETETICS

NUTRITION UPDATE ON DIABETES
on the occasion of
WORLD DIABETES DAY 2023

CHIEF GUEST
Dr Ganesh HK
Endocrinologist
A J Hospital & Research Centre
Mangalore

18 NOVEMBER 2023
Avishkar, 7th Floor,
ABSMIDS, Deralakatte

SPEAKERS
Prof. (Dr) Indrani Karunasagar
Director (Projects & DST TEC)
Nitte DU
Dr. Shiga Jyoti, MD
Consultant Dietitian
Mumbai Civil & Health Centre
Mumbai
Dr. Geeta Chamarti, MD
Clinical Nutritionist
Director & Founder
Gita's Health Consultancy
Bangalore
Dr. Bindu Shrivastha
Sr. Medical Officer (Diet)
ICMR College of Nutrition & Food Sciences
Uttar
Dr. Padmanabh Ashraya
General Physician
UKAAT

Register here: <https://forms.gle/qBDoDMeTRgyS9C76Z>

ZUMBA
"Where fitness meets fun"
Session by Ms. Divya Nayak
3:00 - 4:00 PM

iQ
9:00 - 9:00 PM



18 Nov 2023 Dr Indrani Karunasagar delivered a talk on "Recent advances in Diabetes "organized by JKSHCH, Nitte (DU).



12-14 Jan 2024: Dr Iddya Karunasagar chaired a scientific session on "Preventive healthcare in aquaculture – Significance and strategies" organized by the Kerala University of Fisheries and Ocean Sciences, Kochi, 12-14 Jan 2024. Speakers from Indonesia, Germany and India participated in this session.



Indian Virological Society has been reconstituted & Dr Indrani Karunasagar Director TEC & Projects has been renominated as Vice President for Veterinary Virology.

The image is a promotional poster for the DST Technology Enabling Centre. It features a dark blue background with a glowing hexagonal pattern. At the top left is the Government of India logo and the text 'Department of Science & Technology, Government of India, Technology Enabling Centre'. At the top center is the NITTE logo with the text 'NITTE (Deemed to be University)'. At the top right is the FAO logo and the text 'Food and Agriculture Organization of the United Nations, FAO Reference Centre on Antimicrobial Resistance and Aquaculture Biosecurity'. The central text reads 'DST TECHNOLOGY ENABLING CENTRE' in large, glowing yellow letters. Surrounding this text are six hexagonal icons with labels: 'INNOVATION' (lightbulb), 'CO-OPERATION' (handshake), 'IDEATION' (lightbulb and speech bubbles), 'CO-ORDINATION' (gears and people), 'TRANSLATION' (hand holding a document), and 'COLLABORATION' (network of people). At the bottom, there are contact details: phone number '0824-2204211', email 'dstnutec@nitte.edu.in', website 'www.dstnutec.in', and social media handles '@DstNutec', '@nitte_tec', and 'Dst Nu-tec'. The address 'Nitte (Deemed to be University), 2nd floor, NIA-NICO building, Paneer Campus, Deralakatte, Mangaluru-575018' is listed at the very bottom.

Editorial Team

Dr Iddya Karunasagar

Dr Indrani Karunasagar

Dr Caroline DSouza

Dr Akshatha K

Dr Anoopkrishna K

Dr Nishith

Mr Rahul Patil

DST NU-TEC, Nitte (Deemed to be University), Paneer Campus, Deralakatte, Mangaluru-575018
dstnutec@nitte.edu.in www.nitte.edu.in www.dstnutec.in 0824-2204211