

Women Scientists to be awarded for research achievements & technology application on NSD

Honourable President Shri Ram Nath Kovind will be conferring awards to women scientists for their research achievements and for application of technology for the societal benefits at the National Science Day (NSD) function at Vigyan Bhawan on February 28, 2020.

The focal theme of NSD 2020 is Women in Science. Five women scientists will receive awards under two categories – SERB Women excellence awards and National Award for Young Woman Showing Excellence through Application of Technology for Societal Benefits.

Serb Women Excellence Award

SERB Women Excellence Award has been instituted to recognize and reward outstanding research achievements of young women scientists in frontier areas of Science and Engineering. The award strives to serve as a source of inspiration to women scientists who have the potential to become world-class leaders in their field of research. The awardees are supported with a research grant of Rs. 5 lakh per annum for a period of three years. This year's awardees are **Dr Niti Kumar**, Central Drug Research Institute Lucknow, **Dr Deepa Agashe**, National Centre for Biological Sciences (NCBS), Tata Institute of Fundamental Research (TIFR), Bangalore, and **Dr K Geetharani**, Indian Institute of Science (IISc), Bangalore.

Dr Niti Kumar is a biologist, working as an independent group leader in CSIR-Central Drug Research Institute (CSIR-CDRI), Lucknow. Her research is focused towards understanding protein quality control machinery in human malaria parasite for exploration of alternative drug targets for malaria intervention. She is also involved in antimalarial screening for identification of scaffolds effective against drug-resistant malaria. She received her PhD from CSIR-Institute of Genomics and Integrative Biology, New Delhi. Having been a Postdoctoral Fellow at Max Planck Institute of Biochemistry, Munich, Germany, she is a recipient of various National and International awards and fellowships such as Innovative Young Biotechnologist Award (IYBA-2015), Ramalingaswami Fellowship, INSA Young Scientist award, EMBO Postdoctoral, Humboldt and Marie Curie fellowships.

Dr Deepa Agashe is a biologist, working at the interface of evolutionary biology, ecology, and molecular biology. Using diverse tools such as experimental evolution, genomics, molecular analyses and phylogenetics, she aims to understand how bacteria and insects adapt to new environments. Dr. Agashe received her Bachelor's degree in Microbiology from Abasaheb Garware College (University of Pune) in 2003, followed by a PhD from the University of Texas at Austin, the USA in 2009. Her thesis work showed that genetic diversity could stabilize animal populations and facilitate adaptation to new niches. During her postdoctoral work at Harvard University, USA, she proved that so-called "silent" mutations could have enormous effects on bacterial evolution. In 2012, she returned to India to lead a research group at the National Centre

for Biological Sciences (NCBS–TIFR), where her team is dedicated to unravelling the causes and mechanisms of evolution.

Dr K.Geetharani is an inorganic chemist, and her research focuses mainly on the development of cost-effective, earth-abundant, less toxic base metal catalysts or main group catalysts for the synthesis of organoboranes, which are important synthetic intermediates in pharmaceuticals, agrochemicals, liquid crystals, and organic light-emitting diodes. She obtained her PhD from Indian Institute of Technology Madras in 2012 and carried out postdoctoral research at University of Wurzburg, Germany. She began her independent research career as Assistant Professor at Department of Inorganic and Physical Chemistry, Indian Institute of Science Bangalore, India, in 2016. She is a recipient of DST-Inspire Faculty Award, Young Associate-Indian Academy of Sciences, INSA-Young Scientist medal and NASI-Young Scientist Platinum Jubilee Award.

National Award For Young Woman Showing Excellence Through Application Of Technology For Societal Benefits

National Award for Young Woman Showing Excellence Through Application of Technology for Societal Benefits will be given to **Dr Shweta Rawat**, DRDO DIPAS, Delhi & **Dr Shalini Gupta**, IIT Delhi.

Dr Shweta Rawat from Defence Institute of Physiology and Allied Sciences (DIPAS), DRDO, Timarpur, Delhi and her team developed a female-specific Full Body Protector (प्रबला) to safeguard the Female troops deployed in riot control actions for the first time. This gear has been developed in collaboration with the Rapid Action Force using the ergonomic design principle based on anthropometric dimensions specific for female troops. The Full Body Protector has unique properties of anti-stab, anti-puncture, flame retardant and acid resistance. It is designed to assure greater comfort and flexibility to the women forces while deployed in law and order maintenance duties.

Dr Shalini Gupta from Department of Chemical Engineering, Indian Institute of Technology (IIT), Delhi, has successfully led the development of a technology Septiflo™, which offers fast and affordable assay for point-of-care diagnosis and treatment of bacterial septicemia. Bacterial septicemia is one of the biggest in-hospital killers worldwide. This has led to the incubation of the start-up Nano DX Healthcare Pvt. Ltd. She is pursuing unconventional approaches to design novel bio-systems for medical diagnosis, drug delivery and biomaterials fabrication on a chip. A prototype diagnostic kit, using naturally amplified pathogen-derived endotoxins for early bedside diagnosis of bacteremia has been developed, which is currently undergoing clinical trial. In drug delivery systems, cancer and bacterial therapies have been combined into a single delivery platform in order to co-eliminate cancer and bacterial infections residing inside cancer.

The Department of Science & Technology (DST) has been celebrating 28 February as National Science Day (NSD) each year. It is the day Raman Effect, a landmark in scientific discoveries,

was announced by the legendary scientist Dr CV Raman. The celebration consists of lectures, demonstrations, exhibitions, quiz programmes, awards and other activities for students and the masses. This year, Honourable President will be awarding science communicators and women scientists on occasion.