IIT-Gandhinagar plans radical biomedical research

AHMEDABAD: Indian Institute of Technology Gandhinagar (IIT-Gn) is poised to take up groundbreaking research on global and public health, frugal engineering and robot-assisted surgery.

After the recently held workshop on biomedical engineering, IIT-Gn researchers discussed proposals to study social factors that impact health, find new drugs for cancer, robot-assisted surgical techniques, designing systems for electronic health records of patients at public hospitals, developing diagnostic tools for clinical breath analysis and early detection of Alzheimer's disease among others.

Speaking about her research on the impact of social factors on undernutrition, obesity, insulin resistance, diabetes and malaria, IIT-Gn's Prof Malavika Subramanyam said, "As a social epidemiologist, the aim of my research is to identify social factors that impact health. The ultimate goal is to design interventions to modify the social determinant of health identified in our research."

Among the main objectives of the Center of Excellence in Biomedical Engineering at IIT-Gn is to develop low-cost technologies to deliver healthcare to rural areas. Professor Arup Lal Chakraborty's research aims to develop diagnostic tools for clinical breath analysis.

Prof Chakraborty said, "The area of clinical breath analysis has emerged as a strong candidate for early and non-invasive diagnosis of various conditions such as lung inflammation, fatigue and cardiac malfunctions. Such a portable diagnostic tool in conjunction with wireless communication is a strong candidate for deployment in mobile units in rural areas."

Participants at the workshop also explored potential collaborations with Indian and overseas partners in areas such as rehabilitation robotics, neuro-engineering, and diagnostic testing.

Prof Nitish Thakor of National University of Singapore (NUS) said, "The Biomedical Engineering Centre at IIT-Gn is a fresh bold start and has the potential to have a national impact. At the moment, our challenge is to do it quickly and achieve high impact - scientifically and socially (healthwise) for India."