



CHAITANYA BHARATHI
INSTITUTE OF TECHNOLOGY (A)

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COMMITTED TO
RESEARCH,
INNOVATION AND
EDUCATION

42
years

Research Life Sciences and Dept. of Chemistry, CBIT Presents

A Webinar on “ 2D Nanomaterials for Advanced Electronic Applications”

Date:

10 April 2021, Saturday

Time:

10:00 AM- 11.30 AM (IST)

****NO REGISTRATION FEE****

Registrationlink:

<https://docs.google.com/forms/d/1vcsMZUFA8gsybV1nMtWMTZ5bxI4xeCpfaNjbnugavrc/edit>

Webex meeting link to Join:

<https://cbithyd.webex.com/cbithyd/j.php?MTID=m6bbabba1b19f898854e580b3291bb849>

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Abstract

Our Smart Nano-Solution Research team is mainly focused on the development of cost effective, high performance multi-functional materials from a broad range of polymer Nano composites for different applications. Our research team has developed non-enzymatic sensor to detect diabetes by monitoring acetone level in human breath. We are also concerned about the global warming and to overcome this issue, we capture CO₂ and convert it into fuels via electrochemical method. Our team is continuously working on the recycling of both plastic and industrial waste and developed Resistive transducers. Thus, Nano composites of both plastic and carbon black has been fabricated by our team to develop an efficient sensor which can be used for several applications. The piezoresistive sensor composed of industrial waste Nano composites was printed with the help of 3D printing technology. Taking the advantage of polymer based composites water absorbent property, we have employed hydrogels in agriculture to monitor the water needs of the plants and to allow safe release of the fertilizers. Hydrogel device can be used as a water reservoir in addition to sensors. The quantity of water in the soil can be maintained and regulated using hydrogel based sensor. Furthermore, our team will present a review on the methods used for the fabrication of current advanced sensors.

About the speaker

Dr. Kishor Kumar Sadasivuni has established an international reputation in the fields of polymer Nano composites, composite materials, design of biomedical devices especially for diabetics and heart failure. Since 2009, Dr. Kishor has been helping to build communities in the interdisciplinary area of Nano composites and its industrial technologies. Recently, Dr. Kishor has started a group called Smart Nano Solutions at Center for Advanced Materials, Qatar University. He has published over 250 papers in the international peer-reviewed journals such as Small, ACS Applied nanomaterials, Sensors and Actuators B, Journal of Physical Chemistry B, Progress in Polymer Science, etc. His research work has been cited more than 4500 times as listed by Google scholar with h-index 37. He has edited 8 books and two of them were included in Springer's Top 25 e-book download of the year. He has registered 7 invention patents and 4 of them have been filed. He has given several invited talks at international conferences. He is serving as a Managing Editor for the Emergent Materials Journal (Springer) and Editorial Board member for the Bulletin of Chemical and Pharma Research. He serves as a guest editor for Sensors & Transducers journal and as a lead guest editor for International Journal of Materials Science and Applications. Dr. Kishor achievements have been recognized by awards such as Tyre & Rubber Industry Leadership Acknowledgement Awards (TRILA): Young Research Scholar of the Year 2017. Dr. Kishor has been involved in 3 National Priorities Research Program (NPRP) Grants and 6 Qatar University Internal Grants (LPI, PI) of total amount of 2.5M\$. Dr. Kishor was included in the world's top 2% Scientists list of 2019 published by Stanford University in 2020.

