



**The Institute of Electrical and Electronics Engineers  
(IEEE)  
Galveston Bay Section  
Joint Societies Chapters**



**ONLINE Virtual Meeting**

**Friday, March 26th, 2021 10:00 AM- 11:00 PM US-CDT(Houston)**

**TOPIC: “NANO-ULTRASONIC SENSORS IN IOT-BASED SYSTEMS FOR HEALTH CARE APPLICATIONS”**

**Speaker: Dr. V.R. Singh, IEEE Life Fellow, IEEE Distinguished Speaker**

National Physical Laboratory, New Delhi-110012, India

**Presentation:**

With the rapid progress in science, there is a good technological development of sensors and instrumentation systems, in the industry, engineering, medicine and other scientific fields. However, more sophisticated sensor systems are still required to be developed for fast measurement in an intelligent manner.

In the present talk, development of new nano-ultrasonic and nano-acoustic sensor systems is discussed for measurements in a reliable manner for remote monitoring and control of the health of say, old age patients living in remote or hilly areas.

Advanced acoustic/ultrasonic biomedical sensors and IOT based systems are presented for healthcare applications, with main emphasis on tele-health. The newly developed diagnostic and therapeutic devices, generally, by using RFID chips, nano-scale or sensor-enabled radio technologies and appropriate sensor networks would be easily used in solving the problems of mainly unexplored diseases, as well as for controlling of the quality of medicines, drugs, equipment and physiological event monitoring systems.

WSN (Wireless Sensor Networking) is preferred to be used here with the sensing devices for remote applications.

**FOR REGISTRATION GO TO  
<http://events.vtools.ieee.org/m/265923>**

**Log-in Information will be provided to all registrants on  
Thursday March 25<sup>th</sup>.**

**Registration is required by Thursday March 25<sup>th</sup> 2021 5:00 PM  
Houston time to attend.**

**SPEAKER:**

Prof. V.R.Singh, Ph.D. (EE IIT-Delhi) and Life Fellow- IEEE LF-IETE, LF-IEI, LF-ASI/USI and LF-IFUMB/WFUMB, has over 38 years of research-cum-teaching experience in India and abroad (Univ of Toronto-Canada, KU Leuven- Belgium, Korea Univ, South Korea, TU-Delft, Netherlands, Univ of Surrey/Southampton, UK, PTB-Germany and others). He has been at National Physical Laboratory (NPL), as a Scientist/ Head of Instrumentation, Sensors & Biomedical Measurements and Standards, as well as a Distinguished Professor (AICTE/INAE) jointly with Thapar University. He has over 350 papers, 250 talks, 260 conf papers, 4 books, 14 patents and 30 consultancies to his credit. Under his guidance, 35 PhD scholars have earned PhD degrees.

Dr. Singh has been the Associate Editor of IEEE Int Sensor Journal (2010-2016), and is Associate Editor of IEEE Transactions on Instrumentation and Measurements (TIM), Editorial Board Member, Biomedical Engineering Letters (BMEL) and Regional Editor of Int Journal of Biomedical Engineering and Technology (IJBET). Apart from this, he is on Editorial/Reviewer Boards of other journals. like Sensors & Actuators (Switzerland), IEEE Trans on Eng. in Med and Biology, J Computers in Electrical Eng. (USA), J. Instn Electr Telecom Engrs, J. Instn Engrs -India, Ind J Pure & Appl Physics, J. of Instrm Soc Ind, J. Pure & Appl Ultrasonics, J. Life Science Engg, etc.

He is the recipient of awards by INSA (Ind National Sci Academy)1974, NPL 1973, Thapar Trust1983, ICMR (Ind Council of Med Res) 1984; Japan Soc. Ultr in Medicine 1985, Asian Federation of Societies of Ultrasound in Medicine & Biology 1987, IE-I(Institution of Engineers- India) 1988/1991, IEEEEMBS 1999 and IEEE-2010/2011/2014, Sir CV Raman Award by Acoustical Society of India / 2018, for his outstanding contributions, and Best AE Award-2020 of IEEE TIM.. He has served as IEEE-EMBS-DL (Distinguished Lecturer)-2018-2020, IEEE Nano Technology Council-DL (2019-2021), IEEE-Systems Council-DL (2020-2021) and INSA-YSA-DL 2019-todate).

Dr Singh is the Chair of IEEE-EMBS/IMS-Delhi Chapter, Immediate past President of Acoustical Society of India and current Vice President of Ultrasonic Society of India and has been the Vice President of Instrumentation Soc of India, Vice-President of IFSUMB, Secretary of IEEE India Council and the Chairman of IEEE-Delhi Section. Dr. Singh is a Member of IEEE Standards Association. He was also Council Member of WFUMB (Australia) Ultrasound Safety and Standards. He has served as the Chair or a Member of BIS Committee on Electro-Medical Committee in the past and presently, he is the Chairman of BIS-MHD-15 Committee.

His main areas of interest are: nano-electronic devices, sensors and transducers, biomedical instrumentation, biomedical standards, computer modelling and simulation, biomedical ultrasonics/medical acoustics, POCT devices, neuro-sensors/implants, nano-cancer-technology, cancer hyperthermia, tissue characterisation, lithotripsy, IOT, WSN and u-health care engineering.



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