



Department of Mechatronics,  
MIT, Manipal  
invites you to guest talk on

**“Real time and simultaneous measurement  
of spirometry and pulse oximetry – A next  
generation breath analyser”**

By

**Dr. Hithesh Kumar Gatty,  
CEO, Gatty Instruments, Sweden.  
Adjunct Faculty,  
Department of Mechatronics**

on

**1<sup>st</sup> April 2024, 04:00 pm (IST)**

**Venue: Mechanical Seminar Hall, 2nd floor,  
AB1**

## About the Speaker

Dr. Hithesh Kumar Gatty is the adjunct faculty of department of Mechatronics. He is also the CEO of Gatty Instruments, Sweden.

Dr. Hithesh Kumar Gatty is currently collaborating with, Department of Information Technology at Uppsala University, Uppsala, Sweden. He is a member of Swedish medical technology organization, International association of breath research and myFab – a microfabrication association in Sweden.

He has a doctorate from the KTH Royal Institute of Technology with a thesis in MEMS - based amperometric sensor for diagnosis and monitoring of asthma and he did his postdoc research in CNRS, Toulouse, France on microsensors.

His main interest lies in understanding various sensing principles and miniaturized sensor fabrication. He has competency in sensor development based on novel materials applicable for medical industry.



## About the Topic

The next generation breath analyzers, from a simple spirometry to breath gas sensors are evolving to contain more and more sensors, we can imagine the plethora of connected systems that is enabling the detection of lung function through these sensors. These sensors are small and fast! The challenge is to connect these sensors and read the data from them in a real-time mode, especially in a remote handheld systems. Due to the short time required for breathing and obtaining results, often 10s, simultaneous data collection from sensors is prone to bottlenecks. The method to tackle these bottlenecks especially using embedded systems will be discussed in this talk.