



The Institute of Electrical and Electronics Engineers  
(IEEE)



## Galveston Bay Section Meeting

Organized by Joint Societies Chapter(EMBS)

**November 9<sup>th</sup>, 2018 (FRIDAY) Luncheon Meeting**

**TOPIC: “Nanotextured Systems for Early Disease Detection”**

**SPEAKER: SAMIR IQBAL, Ph.D., P.E. ,IEEE/EMBS Distinguished Speaker**

Professor Electrical Engineering, University of Texas Rio Grande Valley, Edinburg, Texas,

**PRESENTATION:** Microtechnology industry has pushed miniaturization to the physical limits. We have now many nanotechnology tools and systems that are used for sensing applications, especially for biological targets. The living systems are composed of many size scales in texture and physical dimensions. The functionalization of solid-state devices and nanotextured materials is providing us new ways of interfacing with cells, biomarkers and genes to measure very small changes that are medically relevant. We can measure single molecule events and make informed decisions regarding diseases like cancer at the very early stages. Such nanotextured systems and measurements from their interfaces are opening up many exciting opportunities to examine and control states of living systems. There are many challenges as well. This lecture will provide an overview and discuss a few examples that require new multi-disciplinary approaches by electrical and electronics engineers to solve important biomedical problems.

### **GUEST SPEAKER:**

Dr. Samir Iqbal earned his Ph.D. from Purdue University, USA in 2007. His research is focused on enhancing sensitivity and selectivity of solid-state and polymeric sensors, and understanding the physics of nano-bio interfaces and molecular interactions. He is a senior member of IEEE, member of Biomedical Engineering Society, American Physical Society, Biophysical Society and National Academy of Innovators. He has published over 60 journal articles and presented at more than 100 conferences. He is a Distinguished Lecturer for two IEEE Societies (IEEE Nanotechnology Council and IEEE EMBS). He has received many research, teaching, mentoring and service awards.

Dr Iqbal is a Fellow of the Royal Society of Chemistry, Professor in the Department of Electrical Engineering, with Joint appointment with the School of Medicine, University of Texas Rio Grande Valley, Edinburg, Texas, USA , [www.nanobiolab.org](http://www.nanobiolab.org)

### **NASA/JSC Discovery Room**

Interested non-IEEE engineers, technicians, scientists, IEEE Members and guests alike are welcome!

**12:00 PM – 1:00 PM - Program and Q&A**

**11:30 AM – Donations \$10.** Please RSVP Before Noon Wednesday Nov 7<sup>th</sup>, 2018

**Number of lunches is limited. Please reserve early**

Reservations for lunch or to attend this meeting should be made by email to:

[Z.Taqvi@IEEE.Org](mailto:Z.Taqvi@IEEE.Org)

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