

VIKRAM NARAYANAN DHAMU
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OBJECTIVE:

To be associated with an educational environment that provides more avenues to learn and experience new technologies and ideas.

EDUCATION:

Masters of Science in Biomedical Engineering

The University of Texas at Dallas, USA (2017-2019)

GPA: 4.00/4.00

Bachelor of Engineering in Electronics and Communication Engineering

Anna University, Chennai, India (2013-2017)

GPA: 7.33/10.00

RELATED COURSEWORK:

- Biomedical Microdevices, Nanotechnology and Sensors, Bioelectric Systems, Biomaterials and Medical Devices, Self-Assembly of Biomaterials, Image Guided Drug Delivery, Biomedical Image Processing, Genes, Proteins and Cell biology, Engineering Physiology of Human Body, Design of Experiments.

LAB EXPERIENCE:

Biomedical Microdevices and Nanotechnology Laboratory, UT Dallas (Oct 2017 – Present)

Principal Investigator: Dr. Shalini Prasad

MASTERS THESIS: Portable Real-time Electrochemical Sensing System for the detection of Pesticide (2018-2019)

LAB SKILLS: Cleanroom fabrication, FTIR, SPR, Laser Gravograph, 3D printing and modelling, Electrochemical wet-lab Analytical Techniques.

SOFTWARE SKILLS: Altium PCB Designer, AutoCAD, Arduino IDE, Inventor 3D, COMSOL Multiphysics, MATLAB, Graphpad Prism.

AFFILIATIONS:

The Honor Society of Phi Kappa Phi – Chapter 316

Biomedical Engineering Society (BMES) - UT Dallas Chapter

Society for Lab Automation and Screening (SLAS)

Electrochemical Society (ECS)

PUBLICATIONS:

1. Stevenson, H., Bacon, A., Joseph, K.M. et al. A Rapid Response Electrochemical Biosensor for Detecting Thc In Saliva. Sci Rep 9, 12701 (2019) doi:10.1038/s41598-019-49185-y
2. Ultrasensitive and Rapid-Response Sensor for the Electrochemical Detection of Antibiotic Residues within Meat Samples
Hunter S. Stevenson, Shubrath S. Shetty, Noel J. Thomas, Vikram N. Dhamu, Ashlesha Bhide, and Shalini Prasad
ACS Omega 2019 4 (4), 6324-6330 DOI: 10.1021/acsomega.8b03534

ACADEMIC PROJECTS:

1) Design of a Subcutaneous Microdevice in Cancer Theranostics.

- Electrochemical sensing system to detect specific breast cancer biomarker-tMUC1.
- Design of a triggered drug delivery mechanism to efficiently target estrogen receptors in breast tumor.

2) Analysis of Electrocardiographic waveforms of Mother and Fetus.

- MATLAB simulation to determine electrical correlation and distinction between maternal and fetal ECG data.
- Surveillance mechanism of the fetus vitals that can detect any ailments at an early onstage.

3) Photoacoustic mediated drug delivery of Raloxifene loaded Nano Cochleates in Breast Cancer Therapy.

- Use of photoacoustic imaging to mediate and deliver Raloxifene drug through nanocohleate carriers to tumor cells.
- High tumor specificity of the drug delivery method is hypothesized.

UNDERGRADUATE THESIS:

Design of a heart monitor using wearable electronics

- Wireless ECG monitoring system that can be purveyed via smartphone (Bluetooth) and can detect anomalies in heart waveform.
- Defibrillator build that can be controlled wirelessly using Bluetooth and behaves as an emergency medical wearable.
- Proposed to integrate the two systems to design an end to end (monitoring-diagnostic-stimulation) cardiac device.