

GLUCOSE SENSOR USING MICROWAVE SENSING TECHNIQUE

Poonam Agarwal

Jawaharlal Nehru University, India

The conventional glucose measuring electrode based techniques are highly time consuming, need skilled people, proper laboratory set-up for testing. Seeing the cruciality of the glucose testing, there is need to explore real-time techniques. The main aim of this paper is to demonstrate a real-time label-free glucose sensor using microwave sensing technique. Currently, we are working on various designs on coplanar waveguide transmission line to demonstrate microwave biosensor. The microwave biosensor is fabricated using microwave laminate board and polymer technology. In this, we proposed biosensor fabricated in-house making use of unconventional fabrication process without the need of cleanroom and costly equipments unlike most of the reported microwave sensors fabricated using conventional MEMS micromachining process. Secondly, the labeled sensing techniques may have an inaccuracy which can be overcome using label-free technique which may be highly useful for biomedical applications.



Biography

Poonam Agarwal has received her PhD from Indian Institute of Science Bangalore, India in 2011. She worked as Postdoctoral Researcher at Nanyang Technological University, Singapore from 2012-2013. She is serving as an Assistant Professor at School of Computer and Systems Sciences, Jawaharlal Nehru University New Delhi, India since 2013. She has received DST INSPIRE Faculty Award by Department of Science and Technology, Government of India, through which fellowship and research grant is provided. Her research interest is focussed on exploring unconventional low cost micromachining techniques to implement mesoscale devices for applications such as energy harvesting device, microwave biosensor etc.

poonamgoel@mail.jnu.ac.in