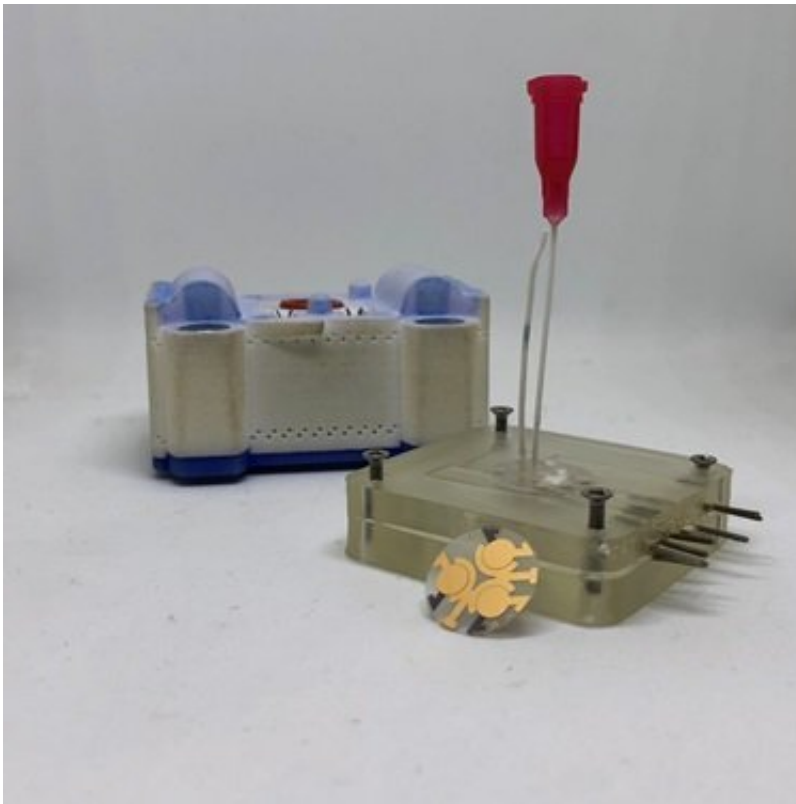


# Developing sensors for tumors and dengue fever

January 27 2020

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Miniature electronic dengue biosensor. Credit: International Islamic University Malaysia (IIUM)

Researchers from the International Islamic University Malaysia (IIUM) have developed a tumor biosensing chip that can help determine the optimum dosage of chemotherapy required for a cancer patient.

Developed by Prof. Anis Nurashikin Nordin and her team, the miniature chip uses cells derived from [cancer](#) patients to screen reactions to different drugs and dosages. The sensor measures the growth and death of the cancer cells electronically and the results are transmitted wirelessly in real time.

Currently, the chip is being tested with lung cancer patients and the research team hopes that it can be used to help [cancer patients](#) in the near future.

The [chip](#) is just one example of the team's efforts to develop precise medical devices for personalized medicine and improving patient outcomes.

Anis and her team have also developed an ultra-sensitive biosensor for early dengue detection. Conventional antibody-antigen detection assays require long detection time and expensive equipment. However, this dengue sensor can detect the mass and electrochemical presence of non-structural protein, NS1, rapidly using a low-cost, portable and miniature sensor array. The ability to detect NS1 allows physicians to have an earlier prognosis for dengue patients and thus prescribe immediate treatment.

Other [medical devices](#) that are also currently in the research pipeline are non-invasive glucose biosensor for monitoring of diabetes patients as well as stretchable sensors for rehabilitation of stroke patients.



Prof. Anis (left) and her PhD student, Anwar Zainuddin, assembling the sensor.  
Credit: International Islamic University Malaysia (IIUM)

Provided by International Islamic University Malaysia (IIUM)

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