

A microcontroller-based taste sensing system for the verification of *Eurycoma longifolia*

Abstract:

With the proliferation of numerous herbal remedies on the market, the ability to verify the actual presence of the active herbal ingredient in a product would be very useful. In this paper, a microcontroller-based electronic taste sensing system capable of discriminating between liquid samples containing *Eurycoma longifolia* and those that do not, is described. The 'taste' of the liquid sample is sensed using specially fabricated disposable screen-printed array of non-specific lipid-membrane sensors and classified by means of artificial neural network (ANN). The overall system is controlled by an embedded microcontroller, which performed the data acquisition, the ANN-based pattern recognition and the user interface tasks. From the extensive tests that were performed, excellent recognition results have been obtained. The system is flexible and could easily be trained for other herbal samples.

Author Keywords: Artificial neural network application; Electronic taste sensing; E-tongue; *Eurycoma longifolia* verification