

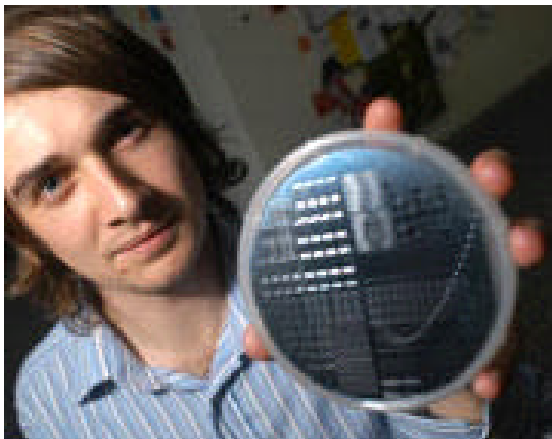
Artificial Noses

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The human nose, although accurate, is becoming a thing of the past. The human nose contains, at most, 5-6 million yellowish cells called olfactory receptors. Compared to other animals, rabbits have 100 million of these receptors, and some dogs have over 220 million. On top of having an inferior sense of smell, we also begin to lose it with age. Studies have shown that one out of three adults from ages 70-80 have problems or complete loss of their sense of smell. Even worse, studies have also shown that two out of three adults at age 80 or older have problems or complete loss of their sense of smell.

The artificial nose has been a topic of research since the mid 1980's. The current applications with this device are still up in the air because just recently a company from Cambridge, England known as *Owlstone* has developed a model of the artificial nose that is proving to become both efficient and inexpensive. The picture below shows the old version of the artificial nose being held by the founder of *Owlstone*, Mr. Bill Boyle.



The way an artificial nose works is it takes information processing and chemical processing, combines the two, and then ID's the scent. The problem has always been the integration of the two. *Owlstone* has found a way to make silicon, with implanted software, function as the chemical processor. The advantage to this is now there is integration, and it is very inexpensive.

The resulting product is an artificial nose going from the size of a smoke detector, to the size of a button. Also, the price has gone down from about \$17569.04 to about a mere \$20.00! The chips are also reprogrammable so they can be set to detect different and/or certain scents.

Uses of this new chip are currently being put towards fire and chemical safety, homeland defense, and for business use. Due to this being a recent breakthrough, its only been now that theories of human application are being proposed.

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