

Sniffing out uses for the 'electronic nose'

March 10 2008

Despite 25 years of research, development of an “electronic nose” even approaching the capabilities of the human sniffer remains a dream, chemists in Germany conclude in an overview on the topic. Their review of R&D on digital noses is in the current issue of ACS’ monthly journal *Chemical Reviews*.

In the article, Udo Weimar and colleagues describe major advances that have produced olfactory sensors with a range of uses in detecting certain odors. Electronic noses excel, for instance, at picking up so-called “non-odorant volatiles”—chemicals that mammalian noses cannot pick up like carbon monoxide.

Ideally, however, an electronic nose should mimic the discrimination of the mammalian olfactory system for smells — reliably identifying odors like “fruity,” “grassy” and “earthy” given off by certain chemicals. Until electronic noses become more selective, their roles probably will be limited to serving as valuable tools for tasks such as monitoring air quality and detecting explosives.

“The electronic nose has the potential to enter our daily life far away from well-equipped chemical laboratories and skilled specialists,” the article states. “Keeping its limitations in mind and adapted for a special purpose, this will be the future for the electronic nose for as long as the ability to smell odors rather than detect volatiles is still far away over the rainbow.”

Source: ACS

Citation: Sniffing out uses for the 'electronic nose' (2008, March 10) retrieved 5 May 2024 from <https://phys.org/news/2008-03-sniffing-electronic-nose.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.