

Special Lecture at CNR-IMAA

GAS SENSORS FOR ENVIRONMENTAL MONITORING

Prof. Krishna C. Persaud “the father of the electronic nose”

School of Chemical Engineering and Analytical Science, The University of Manchester, UK

Abstract

Arrays of gas sensors are useful in the context of environmental monitoring, as the data captured can be processed in a multivariate way in analogy to artificial olfactory systems. For indoor air quality monitoring, sensor units developed by a team at The University of Manchester were utilised. Air quality monitoring is conducted to collect primary emission data from homes utilising gas and electricity for heating and cooking. The sensor units measure SO₂ (sulphur dioxide), NO₂ (nitrogen dioxide), CO (carbon monoxide), CO₂ (carbon dioxide), TVOCs (total volatile organic compounds), relative humidity and temperature. For outdoor air quality monitoring single point gas sensors placed at the boundary of an industrial site, correlated with meteorological data may help to predict when an odour nuisance complaint is likely to occur.

December 18th 2014 - 11:00 am

CNR - Area della Ricerca di Potenza

Short biography

Krishna Persaud is a Professor of Chemoreception in the School of Chemical Engineering and Analytical Sciences, the University of Manchester. He gained his PhD at the University of Warwick in 1980 and since then he has specialised in chemical sensing from biological concepts to engineering. He was elected Fellow of the Royal Society of Chemistry, and also Fellow of the Institute of Measurement and Control. As a result of his work two successful companies were formed – Aromascan plc, and Multisensor Systems Ltd. He was awarded a Silver medal from the Royal Academy of Engineering for his work. Research interests focus on the area of chemical senses from physiology to chemistry. He has been involved in the development of gas sensor arrays for sensing odours based on conducting polymers. He has had a wide number of external activities such as Exchange Coordinator for the GOSPEL Network of Excellence, Committee member of the NOSE II forum and Executive secretary and treasurer of the European Chemoreception Organisation (ECRO). He has been an associate editor for a number of journals that include Materials Science and Engineering C, Biochemical Journal, IEEE Sensors Journal, Sensors and Actuators B and has published over 200 papers in the field of gas and odour sensing.

