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IEEE P2520 Seminars on Fundamentals of Odor Monitoring & Analysis
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Title: **Odor Sampling Methods and Practices** (recording, slides)

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Recent advances in sample handling techniques for traces gases and odors are examined as part of analytical workflow for various analytical methods including "electronic nose systems". Classic approaches for headspace analysis as well as advanced methods of sample enrichment and dynamic separation are considered and summarized. The efficiency of application of different sampling methods for specific analytical tasks is discussed. Special attention is paid to the analysis of present trends of searching the approaches aimed at replacing time-consuming and expensive sample preparation procedures with alternative techniques, including development of sensors arrays with adaptive selectivity profiles, creation of sensor interfacial architectures with tunable adsorption properties, advanced experimental data coding and use of classic spectroscopic methods for "virtual" sensor array formation.

Depending on the type of the assigned objectives, the tasks for sample preparation for analysis are usually as follows: (i) formation of headspace (a gaseous or vapor environment that represents component composition of the object under investigation); (ii) sample enrichment, preconcentration, etc. (at low concentration of the targeted components); (iii) filtering and separation (to release target components, separate dominant components, provide separation in time of different components, etc.). Each of these tasks will be discussed.

Biography

Professor Krishna Persaud, PhD, FRSC, FInstMC, graduated with BSc Hons Biochemistry at the University of Newcastle-upon-Tyne, UK in 1976, MSc in Molecular Enzymology at the University of Warwick, UK, in 1977 and a PhD specialising in olfactory biochemistry in 1980. He subsequently worked at the University of Newcastle-upon-Tyne, University of Pisa and the Medical College of Virginia extending his knowledge in the Chemical Senses. He is now Professor of Chemoreception at the University of Manchester, Department of Chemical Engineering and Analytical Science. In his career, he has carried out research in chemoreception, crossing disciplines from biological aspects of olfaction to sensor arrays, electronics, signal processing and pattern recognition, and commercial development of artificial olfaction technologies.

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