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Title:

Forty years of electronic noses

Research into electronic nose (eNose) technology exploded over the last forty years with the introduction of innovative sensor materials, methods for odour handling and delivery, together with instrumentation based on newly available integrated components and microcontrollers. New strategies were generated for performing signal conditioning and preprocessing, real-time pattern recognition and analysis, and classification of the characteristic fingerprints from sensor arrays comprising small to large numbers of sensor elements. The technology was introduced into environmental monitoring, medical diagnostics and health monitoring, recognition of natural products, process monitoring, food and beverage quality assurance, automotive and aerospace applications, detection of explosives and cosmetics and fragrances. Many companies were born and many died in selling eNose instruments globally to meet the demand in expanding markets for desktop-based and handheld devices. This talk presents a retrospective view and highlights future trends in eNose technology.