

Professor James A. Covington

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Professor James A. Covington is Professor in Electronic Engineering at the School of Engineering, University of Warwick, where he serves as Deputy Head of School. He founded Warwick's Biomedical Sensors Laboratory in 2010 and leads research on chemical and biological sensing, including machine olfaction (electronic nose) technologies, for environmental monitoring and non-invasive clinical diagnostics using gas-phase biomarkers. His work has attracted substantial support from major funders and partners, including the EU, MRC, NIHR, industry and medical charities, and has resulted in patents and licensed sensor and diagnostic technologies. Alongside this, he has developed low-cost, high-volume chemical sensors for industry and is translating these approaches into environmental and agricultural monitoring, including community air-quality initiatives and sensing for crop storage. He chairs the IEEE P2520.1 Working Group, developing baseline performance testing for odour analysis devices and systems, and served as President of the International Society of Chemical Sensors. He served as President of the International Society for Olfaction and Chemical Sensing (ISOCS) from 2022 to 2024, and is a Fellow of the IET and a Senior Member of the IEEE, and is active in public engagement to promote olfaction through events and broadcast media.