

Fluorescent chemosensors and imaging agents

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Sensors and imaging agents can be used to monitor analytes within physiological, environmental, and industrial scenarios. The interactions between the “chemosensor” and an analyte of choice occurs on a molecular level and as such gathering and processing the information is challenging. Therefore, I will outline the trials and challenges encountered in the development of several robust chemical molecular sensors “chemosensors” able to detect such analytes selectively and signal or map their concentration in a biological or environmental scenario. During the talk you will be introduced to a variety of fluorescent probes designed for diols (D-glucose), and redox imbalance. With the goal being the development of chemosensors capable of determining the concentration (and location) of a target species in any medium. Particular attention will be paid to the underlying chemistry associated with the construction of practical chemosensors for both sensing and imaging applications.

Keywords: Fluorescence; Chemosensors; Imaging agents

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Biography:



Tony D. James is a Professor at the University of Bath and a Fellow of both the European Academy of Sciences and the Royal Society of Chemistry. He earned his BSc (1986) from the University of East Anglia and his PhD (1991) from the University of Victoria, Canada. He then undertook postdoctoral research in Japan (1992–1995) with Professor Seiji Shinkai, a pioneer in supramolecular chemistry. He was awarded a Royal Society University Research Fellowship at the University of Birmingham (1995–2000) before moving to Bath in 2000.

His major honors include the Royal Society Wolfson Research Merit Award (2017–2022), the Daiwa–Adrian Prize (2013), the CASE Prize (2015), the MSMLG Czarnik Award (2018), and the Frontiers in Chemistry Diversity Award (2020).

Professor James serves as an Editor for *Sensors and Actuators B: Chemical*, Associate Editor for *Chemical Science*, Associate Editor for *Smart Molecules*, and Associate Editor for *Chinese Chemical Letters*. He has authored over 576 publications, including 4 books, 10 book chapters, and 562 research papers, with an h-index of 104, reflecting his major impact in supramolecular chemistry, chemical sensing, and functional molecular systems.