

Sensory Science @ the University of Nottingham

The **Sensory Science Centre** is part of the Division of Food Sciences in the School of Biosciences at the University of Nottingham.

MISSION STATEMENT

The Sensory Science Centre aims to:

- Conduct international quality research relating to sensory science, particularly in the areas of:
 - Understanding sensory interactions and multimodal flavour perception
 - Modelling sensory perception through an understanding of chemical and physical stimuli and brain processing
 - Understanding individual differences in sensory perception
 - Understanding consumer behaviour
 - Evaluating sensory/consumer methodology
- Provide a focus and facilitate collaboration for sensory research across Industry and across the University.
- Provide top quality training for Industry and sensory researchers.
- Promote the growth of Sensory Science research in UK.



Sensory Science Facilities

The Centre has state of the art sensory facilities, including a suite of 10 booths designed to ISO Standards (ISO8589:1988), with controlled temperature, lighting and ventilation. A second room provides a flexible evaluation space with 10 further booths and a discussion area.

Two additional booths provide the ability to link with additional instrumentation such as the Dynataste delivery system and physiological recording equipment such as Electromyography. All booths are connected by a Local Area network operating Fizz Software. The spacious custom designed kitchen provides for the controlled production of samples and the lounge area creates a comfortable environment for panellists to relax between sessions. Our training room provides ideal facilities for panel briefing, training and profiling sessions.



Panels

The SSC has an external panel of over 25 local men and women who have been rigorously screened for their sensory acuity, discrimination and descriptive ability. The panel has been operational since 1999 and during that time has been trained in numerous sensory methods and scaling techniques e.g. Magnitude Estimation, Time Intensity, Temporal Dominance of Sensations (TDS) and Labelled Magnitude Scale (LMS). Recently a specialist beer tasting panel was recruited which is involved in our research related to Brewing Science. Based at a University we also have access to a wide range of volunteers, from a range of backgrounds, for sensory investigations requiring larger numbers of untrained panellists.

Access to complementary laboratories

As part of the Food Science Division we also have access to world class laboratory facilities including the **Flavour laboratory** with access to a range of instrumentation for chemical analysis including GCMS, LCMS, odour port and API_MS (MSNose™). The MSNose™ enables in breath volatiles to be monitored during eating. Coupled with sensory data this has enabled us to gain important insights between the relationship between volatile stimuli and flavour perception. The **Biomaterials Lab** provides an exceptionally well equipped facility for the rheological analysis and characterisation of food materials. The new **Food Processing Facility** also provides access to a range of pilot industrial and research equipment. Collaboration with colleagues at the Sir Peter Mansfield Magnetic Resonance Centre (SPMMRC) has enabled us to gain a deeper understanding, using **functional Magnetic Resonance Imaging (fMRI)**, of how the brain processes signals from sensory stimuli. Together with colleagues at the Sir Peter Mansfield Magnetic Resonance Imaging Centre, we have developed a protocol that closely mimics real consumption, to enable us to follow flavour processing in the brain.



Sensory Science Research

Our current research focuses on using sensory science and instrumental techniques to understand how we perceive flavour. Current areas of interest include:

- Crossmodal perception - how taste, aroma and texture integrate to elicit flavour perception
- Investigating individual variation in perception e.g. supertasters and thermal tasters
- Using functional Magnetic Resonance Imaging (fMRI) to understand flavour and taste perception
- Measuring Emotional response to sensory properties



Sensory Science People

- [Professor Joanne Hort](#), SABMiller Chair in Sensory Science
- [Dr Louise Hewson](#), Sensory Science Centre Manager
- [Mrs Helen Allen](#), Sensory Science Centre Technician

Sensory Science Training

Trained Sensory Scientists are scarce in the UK and at Nottingham we are committed to training individuals at all levels of proficiency. We offer formal qualifications at PhD, Masters and Undergraduate level but also short courses for industry.

Undergraduate: Sensory Science is a key module across our Undergraduate courses in Food Science and Nutrition & Food Science.

MRes Sensory Science: An MRes degree, a one year full-time (or up to four years part-time) qualification, provides an excellent alternative for potential students to bridge the gap between undergraduate and PhD study, and offers a unique opportunity to gain a taste of research at postgraduate level. Two thirds of your time is spent on a sensory related project and the remainder attending taught modules relevant to your investigation.

PhD Sensory Science: The Sensory Science Centre is host to several PhD students investigating aspects in Sensory Science.

Training for Industry: Our [Sensory Science Training Courses](#) brochure outlines our range of [short courses](#) through to a flexible postgraduate programme for Industry.