Hunger
Flavour
Neurons
Malnutrition
Molecule
Food

Culture Diabetes

Odour
Electrophysiology
Texture Detection
Genetic Protein
Saliva Receptors
Lipids Health
Neurosciences
Vision Ageing
Obesity
Pleasure Food intake
Perception Gustatory Biology Brain
Aroma Sweetener Mouth Chewing
Sugar Development
Bitter Sensoriality
Salt
Ethology Sciences Learning
Hypothalamus Metabolism Plasticity
Psychology Psychophysics
Retina Physiology Eye
Wine

Trigeminal
Neurobiology
Behaviour Umami
Cognition
Olfaction Satiety
Taste
Sensory Training

Centre for Taste and Feeding Behaviour

CSGA

AGRO SUP DIJON

CNRS

INRA SCIENCE & IMPACT

UB UNIVERSITÉ DE BOURGOGNE

CSGA
Centre for Taste and Feeding Behaviour

CSGA
https://www2.dijon.inra.fr/csga/

Paris

Dijon

Director
Lionel Bretillon

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21000 DIJON
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Some features
10 research groups
1 platform
64 researchers, professors & assistant professors
72 engineers & technicians
29 PhD & post-doc
27 non-tenured agents
122 publications in 2017

@CSGA_DIJON

Overview

Created in 2010, the Centre for Taste and Feeding Behaviour (CSGA) belongs to AgroSup Dijon, CNRS, INRA and University of Burgundy. This unit carries out original and unique research on food flavour, sensory perception and eating behaviour, while focusing particularly on the impact of food on health and well-being.

The CSGA developed complementary competencies in key-thematic fields with expertise recognized throughout the world: physiology, neurobiology, chemistry, sensory evaluation, ethology and psychology are disciplines mastered by the different research teams.

Sensory perception

Eating behaviour

Food properties

Diet and health

External factors
Environment, culture...

Internal factors
Age, pathology...

Food properties

Foods and drinks contain molecules responsible for sweet, salty, sour, bitter or umami tastes, as well as volatile compounds responsible for odour and aroma. Together taste and aroma constitute the flavour.

Research conducted by the CSGA aims to identify the molecules responsible for the flavour of foods and beverages, as well as to understand the release mechanisms of flavour compounds in the mouth. In particular, we study the impact of food composition, texture and oral physiology (mastication, salivation) on the release and the perception of flavour compounds.
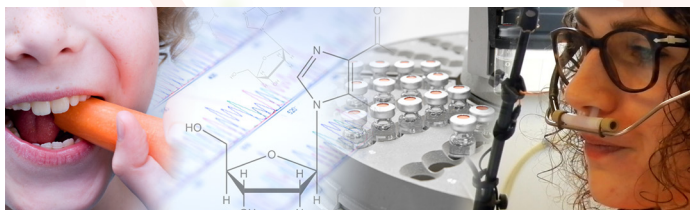
Sensory perception

Smell, taste and vision are all sensory modalities that contribute to the perception of a food product.

The CSGA explores the mechanisms underlying the perception of sensory signals, from peripheral detection to brain integration. We study the interactions between sapid or odorous molecules and their receptors as well as perireceptor events. We investigate the synergies between the senses (olfaction/vision, olfaction/gustation) as well as the effect of individual factors (early exposure, age) on sensory perception. Finally, we decipher the molecular and neuronal pathways involved in the integration of sensory signals and metabolic signals (blood glucose level, lipemia, hormones…).

Eating behaviour

Eating behaviour, which includes food choices and intake, is partly driven by sensory perception and food preferences.
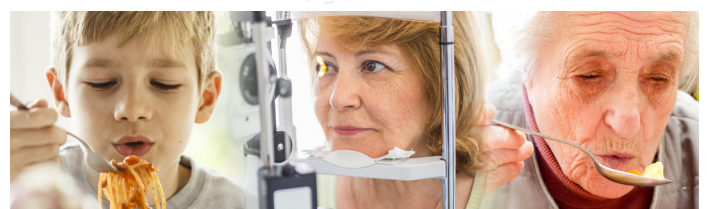
The CSGA seeks to identify the determinants of eating behaviour from foetal life and childhood to old age. We analyse the impact of factors related to the individual (metabolic state, prandial state, early learning, experience, culture) as well as the influence of factors related to the environment (sensory and social contexts). In parallel, we assess how food preferences and eating behaviour change over the lifespan, and we look for the factors that lead to these changes.
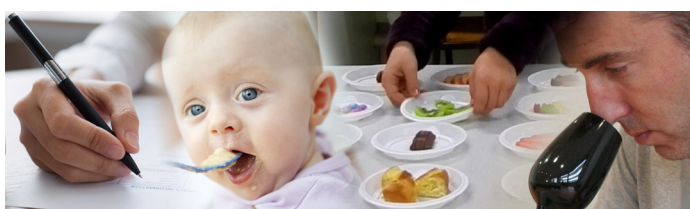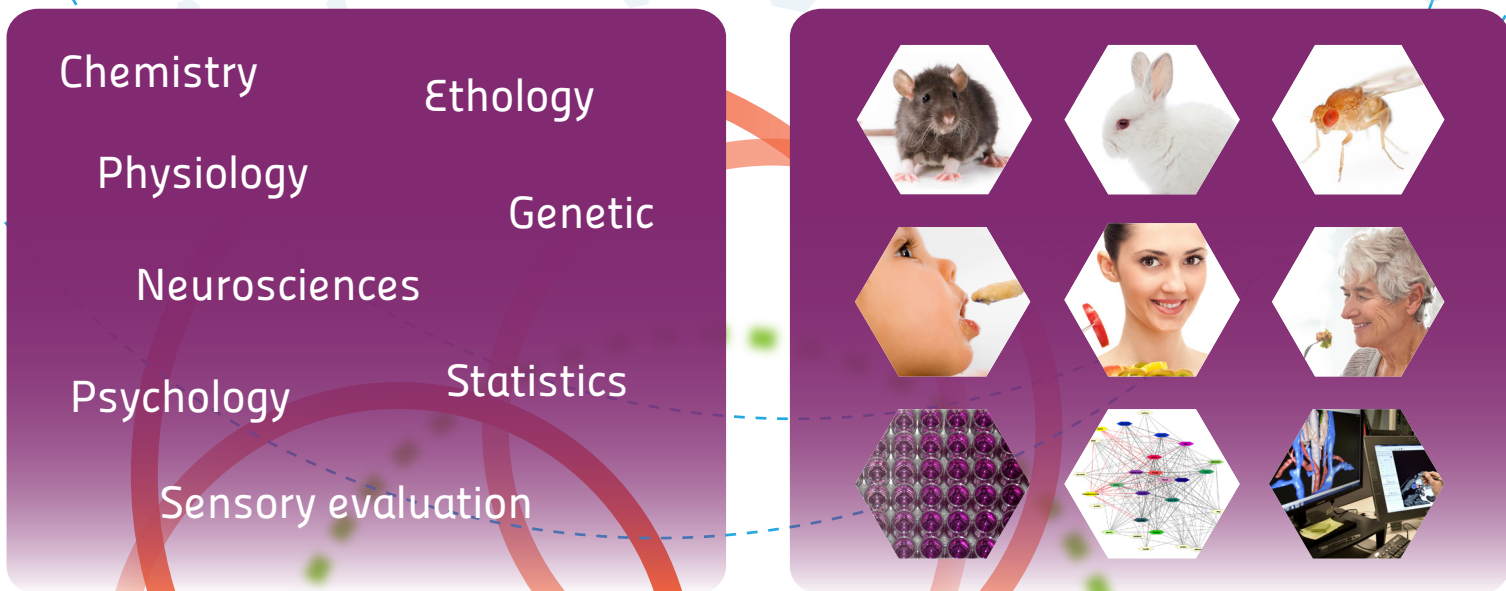
Diet and health

Food is a major determinant of health and well-being.

The CSGA studies how nutrition, in its qualitative (sensory quality and diet balance) or quantitative dimension (intakes of macro and micronutrients) contributes to prevent or to promote various pathologies such as retinal pathologies, obesity, metabolic diseases or malnutrition. We also evaluate how metabolic imbalance (type 2 diabetes, obesity) and/or aging lead to changes in sensory function and as a result to changes in eating behaviour.

Complementary between disciplines and models

Chemistry

Ethology

Physiology

Genetic

Neurosciences

Statistics

Psychology

Sensory evaluation

Technical expertise

Olfactometry & Gustometry

Brain imaging

Electro-physiology

Neuro-anatomy

Calcium imaging

Histology

Psycho-physics

Sensory analysis

Chewing simulator

Cohort follow-up

Lipidomics

Cell & molecular biology

Mass spectrometry

Sensometric

Facial expression analysis
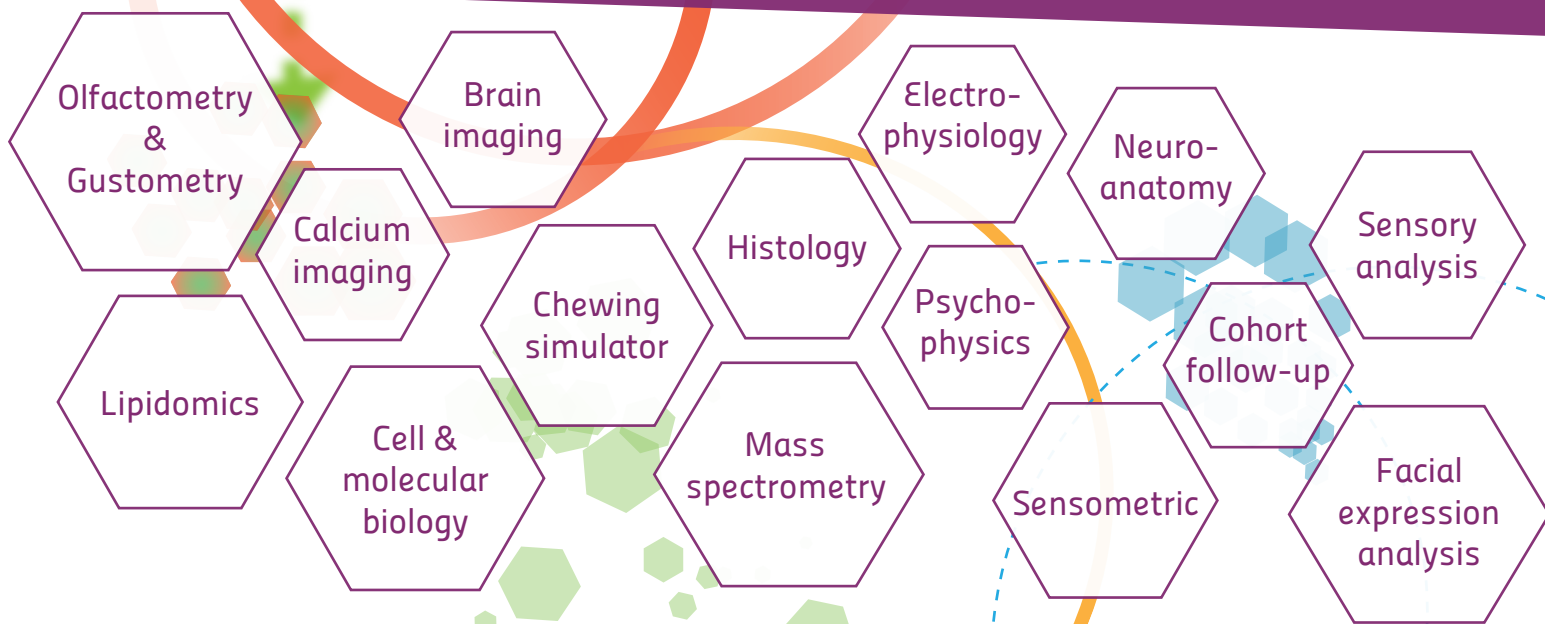
ChemoSens platform

The CHEMOSENS platform develops tools and methodologies used for physico-chemical and sensory analyses of foods. The platform coordinates and takes part in research projects to further understand the biological, physico-chemical and psychophysical mechanisms of sensory perception and to study the effects of this perception on food acceptability and consumer behaviour. CHEMOSENS is the only platform in France to offer this dual competence in physicochemical and sensory analysis, thus making a valuable contribution to multidisciplinary research.

Partnership

UNION EUROPEENNE

avec le Fonds européen de développement régional (FEDER)

RÉGION BOURGOGNE FRANCHE COMTÉ

L'université de Bourgogne est membre de
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