Mammalian species rely on their olfactory system to adequately interact between individuals and with their surroundings.

At the core of this complex sensory system are specialized chemoreceptors, which are present at the interface between the outside and the inside worlds, on dendrites of olfactory sensory neurons.

Genes coding for these receptors are very numerous, since they represent a staggering 1 to 5% of the mammalian coding genomes. They are also highly variable, and are divided into multiple superfamilies, each of them apparently devoted to a specific task.

Thus, from carbon detection to food identification, and from mate recognition to predator detection, mammals use highly specialized chemical detectors, whose binding activates specific neural circuits, that translate into innate or learned behaviors.