POTION - Promoting social interaction through emotional body odours

The way chemistry influences human communication is one of the most intriguing and debated topics. More specifically, the nature of chemosignals and their sphere of influence on social interaction is a very important key to understanding human behaviour. POTION proposes a novel technological paradigm to delve deeper into understanding meaningful social interaction, combining new knowledge about the chemical composition of human social chemosignals together with a novel olfactory-based technology designed to drive social behaviour. A first challenging analysis on human chemosignals to delineate the chemical underpinnings of the emotions of happiness and fear will be carried out since they are the representative emotions that drive approach and avoidance behaviour, i.e., the fundamental building blocks of social interaction between individuals of the same species. Results of this analysis will be used to artificially synthetize the chemosignals of these two emotions, which will provide the basis of an innovative computer-controlled odour delivery system able to drive the approach-avoidance social strategy. This breakthrough device will be controlled in a closed loop by the social-emotional state of the subjects evaluated through a novel computational neural model. The POTION system will be applied and tested in both social and clinical scenarios. In the social scenarios, we venture to reveal how olfaction clues work in managing the feelings of trust, presence and inclusion, in both virtual, real, and social media contexts. In the clinical scenario, POTION will propose a new human chemosignal-based diagnosis and treatment for social anxiety, phobias and depression, which are known to all share impaired social functioning. POTION will provide further insight to the fundamental underpinnings of human behaviour with the goal to help establish healthy social relationships through trust, leading to an overall improvement in wellbeing.

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