

procedure influence odor description depending on the chemical complexity of the mixtures. These findings suggested that the perception of odor blending mixtures is under both the influence of top-down (perceptual and semantic learning) and bottom-up (olfactory inputs) processes. Secondly, we demonstrated that verbal descriptions with or without semantic cues (choice between attributes or free description) can be used in parallel of typicality rating to evidence perceptual blending in odorant mixtures. *Supported by INRA and Regional Council of Burgundy*

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Poster Session V

### SCENT SIGNALS OF INDIVIDUAL GENETIC IDENTITY USED IN MATE CHOICE

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Signals of individual genetic identity play a number of important roles in mate choice. Attention has focused on the highly polymorphic major histocompatibility complex (MHC) as a likely signal of genetic individuality in vertebrates because of MHC-linked discriminable scent differences in fish, rodents and humans. However, direct evidence is surprisingly limited, coming mainly from laboratory or hybrid mice that lack normal genetic variation and social experience. In wild house mice (*Mus musculus domesticus*), the major urinary protein (MUP) complex encodes specialised communication proteins that exhibit considerable variation between individuals and are much more strongly expressed in scent than MHC. In experiments that disentangle the intrinsic correlations between MHC, MUP and genetic background, we have examined whether MUP and/or MHC scents are used to recognise different individuals of the opposite sex, to avoid inbreeding with close kin, or to assess genetic heterozygosity of potential mates. In each case we find strong responses to MUP type but not to MHC. Mice avoid inbreeding using self-referent matching of MUP type but do not avoid those of the same MHC type. Recognition of individual scent owners depends on MUP but not MHC. Females also preferentially associate with MUP heterozygous males when genome-wide heterozygosity is controlled. Thus, variation in MUP genotype between individual wild mice provides a genetic identity signal in scent that underlies genetic heterozygosity assessment as well as individual and kin recognition. The lack of individual and strain variation in MUP phenotype among laboratory mice has important implications for studies that use such strains to assess mate choice or to address questions concerning the recognition of individuals, kin or sex through scent.

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Poster Session V

### EFFECTS OF ANDROSTADIENONE AND MENSTRUAL CYCLE PHASE ON FLIRTING BEHAVIOR IN RANDOM COUPLES

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Although the existence of human pheromones is widely accepted among layman, scant evidences for overt behavioral effects in humans

exist in the literature. **Aim:** The aim was to test possible effects of androstadienone on non-verbal flirtatious behavior in a controlled social-interaction situation. **Method:** Sixty-five male and 65 female, heterosexual individuals, aged 19-34 (mean 23 years), were randomly assigned to the experimental group (exposed to androstadienone) or the control condition. None of the women were taking hormonal contraceptives, and menstrual cycle data were collected from all. Using a double-blind experimental design, male-female pairs were instructed by a female experimenter to perform two collaborative tasks, and each pair was subsequently left alone in a room and videotaped during the task execution. The videotapes were analyzed for signs of non-verbal flirtatious behavior by two independent raters. Measures of behavior included the calculated frequencies of specific behaviors (e.g., head tilt, object caress) and several subjective ratings (e.g., level of eye contact) made independently by the raters, using visual analog scales. **Results:** Analyses will focus on differences in flirtatious behavior between the experimental group and the control group, as a function of gender and of menstrual cycle phase.

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Poster Session V

### ARE THERE GENDER DIFFERENCES AND GENRE DEPENDENCIES IN THE HUMAN AXILLARY SECRETIONS PRODUCED IN RESPONSE TO VISUAL STIMULI?

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The overall objective of this study was to test the hypotheses that the human axillary response produced when watching videos depends on genre and that this response is gender specific. This test was accomplished by evaluating the differences in the axillary secretions produced when humans watched pornographic, romantic, action or documentary videos. For this evaluation, a golden-retriever (*Canis familiaris*) was trained to recognize a target gauze pad worn while human subjects viewed the pornographic video. After sampling three test boxes, the dog exhibited a sit/stay response in front of the box containing the target. The dog first learned to correctly identify the target from unscented pads. Then, distracters, the gauze pads worn while the same subject watched the other genres of videos, were introduced as possible choices. An error analysis was used to judge the commonality between the various distracters and the target smell. In other words, the more often the dog confused a particular distracter for the target, the more similar that distracter was assumed to be to the target. For male subjects, the smell produced while watching the action video was more often confused with the pornographic target than was the smell produced from the other distracters ( $p < 0.05$ ). However, for females, the smell produced while watching the romantic video was more often confused with the target ( $p < 0.05$ ). These observations are consistent with the hypotheses that the axillary response is dependent on video genre and that the response produced when viewing pornographic videos is gender specific.