

16.15 – 16.30	Jim McGertick Dogs' responses in inequity paradigms may be driven by perceptions of reward attainability
16.30 – 16.45	Silvia Guerra Goal-directed actions in plants: a kinematical approach
16.45 – 17.00	Alessandra Pecunioso Anisotropy of perceived numerosity: Evidence for a horizontal–vertical numerosity illusion
17.00 – 17.15	Maria Bortot Abstract numerical representation in honeybees (<i>Apis mellifera</i>)
17.15 – 17.30	Giulia Montalbano Individual differences in inhibitory control in a teleost fish
17.30 – 18.15	Round-table discussion Gianmarco Altoè: Good research practices
20.00 – 22.00	<i>Conference Dinner at "Pizzeria Marechiaro" (p.7)</i>

Friday, 6th September 2019

09.00 – 09.30	<i>Announcements</i>
09.30 – 10.30	Plenary talk Cinzia Chiandetti: Cognition in the poultry yard
10.30 – 11.00	<i>Coffee break</i>
11.00 – 12.30	Talk session 3: social interactions
11.00 – 11.15	Zsofia Bogнар Look into my eyes, I will reward you – Head shape, sex and age affects dogs' visual communication
11.15 – 11.30	Gwen Wirobski Hand raised, pack-living dogs' and wolves' urinary oxytocin levels following interactions with human partners
11.30 – 11.45	Paula Perez-fraga Who looks for human assistance? A comparative study of pigs' and dogs' performance in an unsolvable task paradigm
11.45 – 12.00	Marianne Wondrak Who is a happy pig? - Does social status influence decision making in a cognitive bias task?
12.00 – 12.15	Vedrana Slipogor Cognitive aspects of 'group personality' in common marmosets (<i>Callithrix jacchus</i>): does social environment affect the individual variation in learning?

Individual differences in inhibitory control in a teleost fish Individuals of many species consistently differ in their ability to perform certain cognitive tasks.

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In humans, large individual differences have been reported for tasks requiring inhibitory control, a cognitive process that allows blocking behaviours and responses. We studied individual differences in inhibitory control in a teleost fish, the guppy *Poecilia reticulata*. In experiment 1, we tested a set of guppies in two inhibitory tasks, the cylinder task and the tube task. In the cylinder task, guppies had to enter a transparent cylinder from the lateral, open side to obtain a piece of food; this required guppies to inhibit the tendency of swimming directly towards the food. In the tube task, guppies were exposed to live prey sealed inside a glass tube and had to inhibit their foraging behaviour. We found positive correlation between the performance in the two tasks, suggesting that some individuals were consistently better than the others in inhibiting behaviour. In experiment 2, we investigated a possible cause of the variability in inhibitory control. We tested a set of guppies with the tube task, to measure inhibitory control, and with a personality test, the open field test. Guppies that more efficiently inhibited behaviour in the tube task behaved boldly in the personality test, showing high activity. Overall, this study evidences individual differences in inhibitory control in guppies and suggests that this variability might be related to individuals' personality.

Students talks - Session 3

Look into my eyes, I will reward you – Head shape, sex and age affects dogs' visual communication

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Recognizing a partner's attention is important for successful communication. Eye contact (EC) is the most common way humans use to signal the intention to communicate. Pet dogs are also prone to make EC with humans and pay attention to such human visual communication (VC) signals.

We investigated whether cephalic index (CI, an indicator of retinal ganglion density), sex and age affect dogs' ability to establish EC with humans. Previous results suggest that (1) selective breeding for different head shapes (different CI) affect visual acuity (i.e. shorter-headed dogs' visual acuity is better) and hence VC ability, (2) primate females pay more attention to their partner's VC signals which might be a general trait in mammals, and (3) older dogs are less responsive to their environment in general.

We tested 129 dogs (64 males, 2.5-14.5 years old, different breeds) in a test where dogs were rewarded for repeatedly making EC with an unfamiliar experimenter. We measured the first 15 latencies from eating the food until making the next EC.

Preliminary results supported our hypotheses, showing that dogs with shorter heads (higher CI; $p=0.005$), females ($p=0.049$) and younger dogs ($p=0.058$) established EC sooner. Dog females seem to be more social. CI value positively affects the VC ability, while age decreases it. To our knowledge, this is the first study examining dogs' tendency to make EC based on CI and sex.

Hand raised, pack-living dogs' and wolves' urinary oxytocin levels following interactions with human partners

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Several domestication hypotheses suggest that dogs are able to establish special bonds with humans, and involvement of the oxytocin (OT) system has been proposed. OT levels of pet dogs and captive wolves have been studied before, but no study has compared subjects raised and kept under comparable conditions. To address this, we investigated how interactions with humans of different bonds correlate with urinary OT levels in hand raised, pack-living dogs and wolves with similar previous human experiences. We predicted more interactions and a greater OT increase following human contact (regardless of relationship) in dogs than wolves. Wolves were predicted to prefer the closer bonded partner and show higher OT levels with the bonded than the familiar humans. Ten wolves and eleven dogs were tested 1) with a bonded and 2) a familiar human, 3) in a baseline condition, and 4) after food delivery without physical contact ("food only"). Urine samples were collected within 60-90 minutes and analysed using an Enzyme Immunoassay. Behaviourally both species showed a preference for the bonded over the familiar human ($p<0.0001$), however, in contrast to the social conditions, "food only" led to the greatest OT increase ($p=0.017$). No effect of species ($p=0.062$) but an effect of sex ($p=0.031$, males > females) emerged. Our results suggest that, although both species are more willing to interact with the bonded partner, no corresponding rise in OT is evident following social interactions.



Certificate of attendance



to

Zsófia Bognár

For Giving a talk presentation at the

**6th European Student Conference
on Behaviour and Cognition,**

from the 4th to the 7th of September in Padua (Padua, Italy),
and taking part to the social event at the Marechiaro

The organizer

Massimo de Agrò