

Assignments and Activities - 11

Task 1: Test your understanding

Question 1: What changes in emotion were observed following temporal lobectomy by Klüver and Bucy? Of the numerous anatomical structures they removed, which is thought to be closely related to changes in temperament?

Question 2: What procedures will produce an abnormal rage reaction in an experimental animal? Can we know that the animal feels angry?

Task 2: FraidyRat fear conditioning (behavioral neuroscience simulation)

Anatomical and physiological basis of fear learning with FraidyRat

<https://mdcune.psych.ucla.edu/modules/fraidy-rat/>

- follow software instructions: <https://ucla.app.box.com/s/0656vyah85nl4wea54kysiszilkf380l>

- follow video (0:10-1:30): <https://ucla.app.box.com/s/hugw2pzsvnoid26ux77hrvweozs4ltj0>

- all materials can be downloaded from [course repository](#)

Use the following parameters for delayed conditioning:

1. ☒ Re-implant probes

2. I. Conditioning

Short

2.1. N Per1: 2

Cntxt Per1: A

CS/US Per1: 1+

N Per2: -20

Cntxt Per2: B

CS/US Per2: 1

ITI: 80

CSdurAcq: 15

USdur: 5

CSdurExt: 15

Rest of parameters: 0

Run/Continue

3. From: 1 To: 400

☒ Animate ☐ Replot

4. Implant probe into Grisham's nucleus and dorsal PAG

Probe 1: X: -14 Y: 29 Implant

☒ Record at Probe 1 ☐ Go ☐ Move

Probe 2: X: -6 Y: 20 Implant

☒ Record at Probe 2 ☐ Go ☐ Move

5. Manual ☒ CS1

☒ Record at Probe 1 ☐ Go ☐ Move

☒ Record at Probe 2 ☐ Go ☐ Move

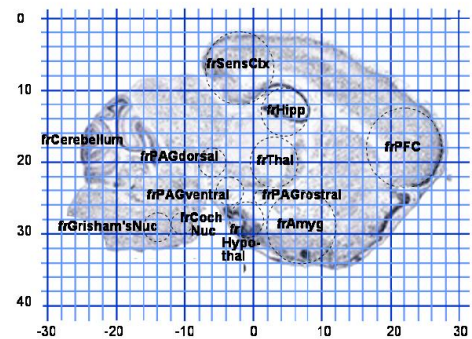
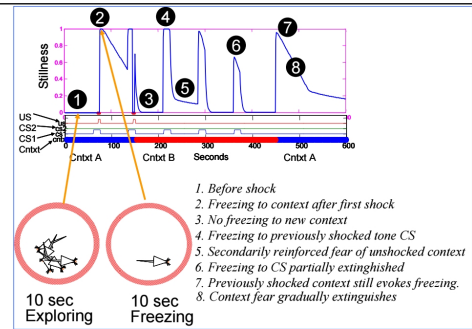
6. II. Extinction

Run/Continue

☒ Record at Probe 1 ☐ Go

7. Infuse ☒ Syst Rate: 50

☒ GABA-R agonist ☐ On/Off



Does conditioning occur in dorsal PAG? Paste a graph of PAGd cells in context B.

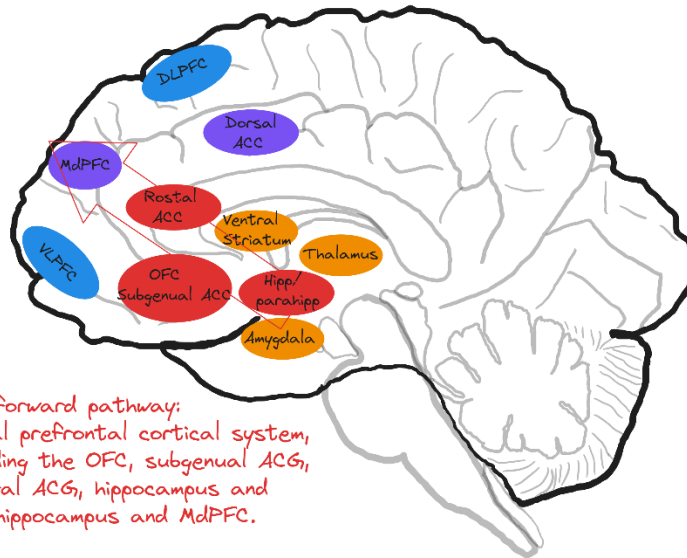
What is the relationship between freezing/exploration behavior and Grisham's cells activity? Paste a graph of Grisham's cells in context B.

What effect does GABA-R agonist infusion have on Grisham's cells?

Task 3: Draw me a Brain Ep. 11

Draw this ([link to editable drawing here](#)):

Automatic Emotion Regulation: Feedforward Pathway

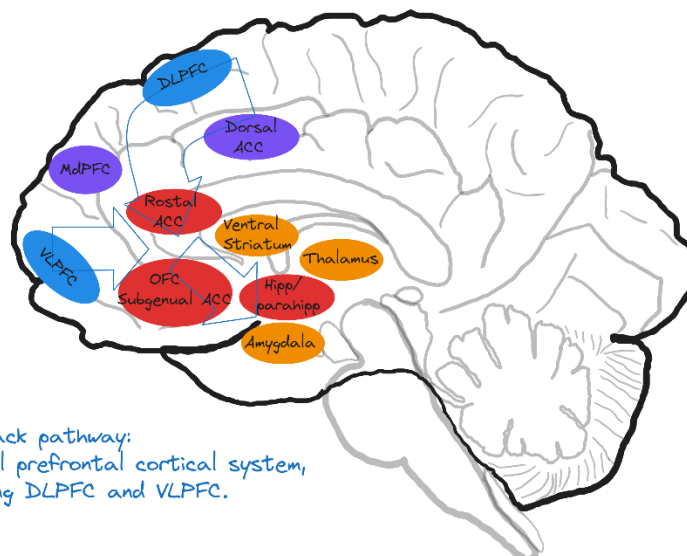


Feedforward pathway:
medial prefrontal cortical system,
including the OFC, subgenual ACC,
rostral ACC, hippocampus and
parahippocampus and MdPFC.

Orienting/Emotion Identification
Automatic Emotion Regulation
Voluntary Emotion Regulation
Regions implicated in both

DLPFC = dorsolateral prefrontal cortex
MdPFC = dorsomedial prefrontal cortex
ACC = anterior cingulate gyrus
VLPFC = ventrolateral prefrontal cortex
OFC = orbital frontal cortex
hipp/parahip = hippocampus-parahippocampus region

Voluntary Emotion Regulation: Feedback Pathway



Feedback pathway:
lateral prefrontal cortical system,
including DLPFC and VLPFC.

Your turn: