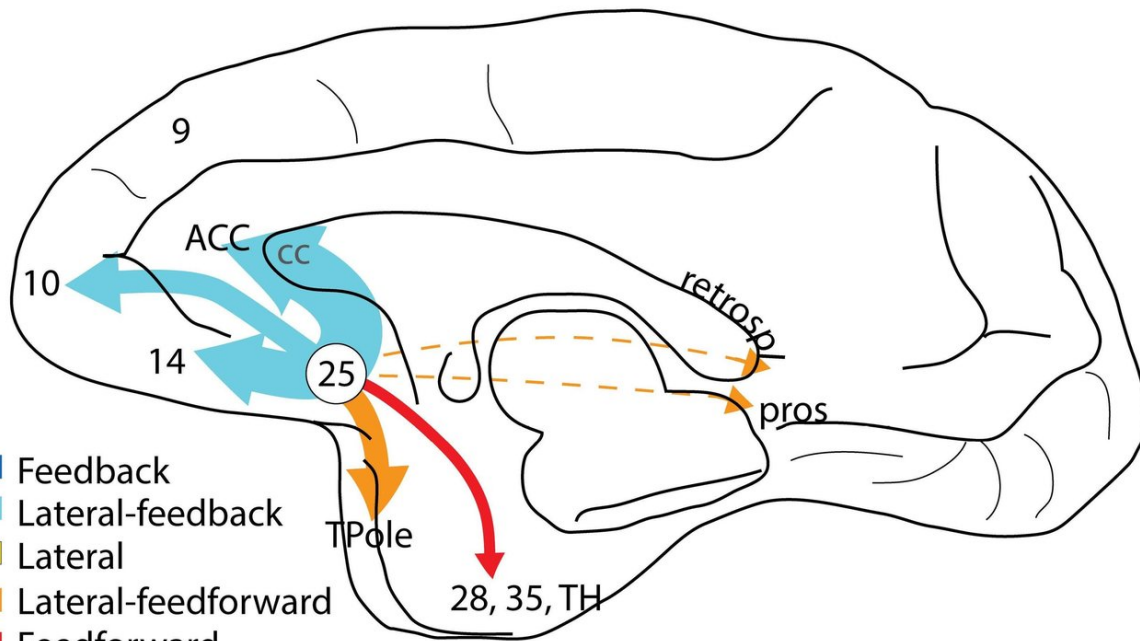
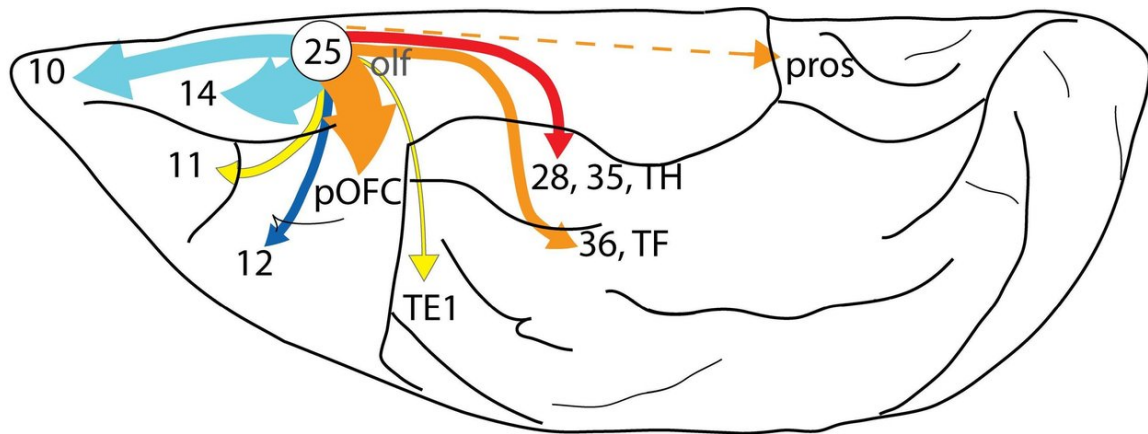
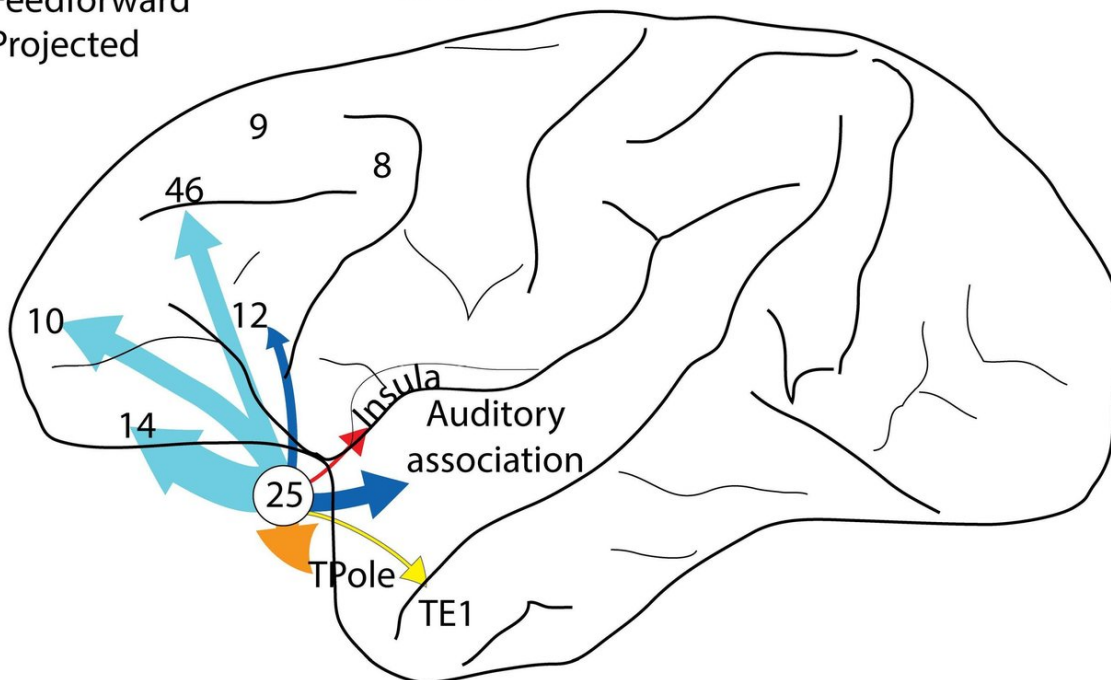


The ins and outs of Area 25

January 22 2018



- Feedback
- Lateral-feedback
- Lateral
- Lateral-feedforward
- Feedforward
- ... Projected



Pathways are color-coded as predominantly feedback or feedforward. A25 is a preferential feedback system to most other areas. Summary schematic of strength (arrow thickness) and connectional type (color) for pathways from A25 projecting to other areas. Note that the thickest arrows fall in the lateral-feedback category. The pattern of label in cortical areas with very sparse connections with A25 is complement with terminations from A25. Pathways with sparse data are represented by dotted lines. Abbreviations: cc, corpus callosum; pros, prostriata; retrospl, retrosplenial; TPole, temporal pole. Credit: Joyce & Barbas, *JNeurosci* (2018)

Neuroscientists have charted the incoming and outgoing connections of a brain region located deep within the primate prefrontal cortex that has important roles in emotion and memory processes. The comprehensive, high-resolution map reported in *JNeurosci* provides new insight into how emotional regulation may become disrupted in psychiatric disorders.

By mapping pathways of subgenual cingulate area 25 (A25) of [non-human primates](#), Helen Barbas and Mary Kate Joyce demonstrate [strong connections](#) between this brain area and others involved in [emotional regulation](#) and maintenance of body states like the stress response.

The researchers also found connections that may contribute to the emotional content of memories and a pathway between A25, which is activated during feelings of sadness, and frontopolar area 10, a part of the brain that helps regulate emotions and is weakened in depression in humans.

As depression is associated with excessive activity in A25, strengthening the link between these two areas suggests a possible mechanism to help disengage from persistent negative thoughts characteristic of the

disorder.

More information: Cortical connections position primate area 25 as a keystone for interoception, emotion, and memory, *JNeurosci* (2018).

[DOI: 10.1523/JNEUROSCI.2363-17.2017](https://doi.org/10.1523/JNEUROSCI.2363-17.2017)

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