

IN BRIEF

PSYCHIATRIC DISORDERS**Parsing depression**

Depression is characterized by a range of symptoms that can be experienced in different combinations and to different extents depending on the individual. Efforts to categorize depression by matching symptoms to physiological changes have had limited success. Here, functional MRI was used to compare whole-brain functional connectivity in 333 people with depression and a similar number of controls. Among the former, dysfunctional connectivity in limbic and frontostriatal networks fell into four biotypes that were predictive of which patients would benefit from neurostimulation therapy, indicating that this system could be used to optimize treatment strategies for different patient groups.

ORIGINAL ARTICLE Drysdale, A. T. *et al.* Resting-state connectivity biomarkers define neurophysiological subtypes of depression. *Nat. Med.* <http://dx.doi.org/10.1038/nm.4246> (2016)

SENSORY SYSTEMS**Age-related odour detection**

In rodents, postnatal neurogenesis is restricted to certain brain areas including the olfactory bulb. It has been shown that blocking this neurogenesis disrupts olfactory learning, but the techniques used lacked specificity. Here, designer receptors exclusively activated by designer drugs (DREADDs) were used to inactivate newborn neurons at postnatal day 0 (P0; juvenile) and P42 (adult). Inactivation at P42 attenuated the response to a novel appetitive odour, whereas inactivation at P0 blocked a freezing response to an aversive odour, suggesting that neurons born in the early and later postnatal periods play different parts in sensory learning.

ORIGINAL ARTICLE Muthusamy, N. *et al.* Developmentally defined forebrain circuits regulate appetitive and aversive olfactory learning. *Nat. Neurosci.* **20**, 20–23 (2016)

LEARNING AND MEMORY**Shared memories**

A group of people witnessing the same event will often have similar memories of it, but the cortical representations of these memories are not well studied. Participants in this study were scanned using functional MRI while watching a movie and also when recalling the movie. Patterns of activity in high-level cortical areas that occurred when viewing events in the movie were similar to those that occurred when recalling the same events. Moreover, these patterns were broadly similar across individuals, suggesting that different people's brains respond in a similar way to visual stimuli.

ORIGINAL ARTICLE Chen, J. *et al.* Shared memories reveal shared structure in neural activity across individuals. *Nat. Neurosci.* **20**, 115–125 (2016)

TECHNIQUES**Getting down to detail**

Currently, there is no technique available that enables specific and inducible genetic manipulation of astrocytes in the brain. Here, the authors identified a marker that enabled selective targeting of astrocytes in mice using the Cre–LoxP system. They combined this with expression of a genetically encoded calcium indicator and used the system to detect intracellular calcium signals in astrocyte processes during a startle response, demonstrating the usefulness of this approach for the study of astrocytes and behaviour.

ORIGINAL ARTICLE Srinivasan, R. *et al.* New transgenic mouse lines for selectively targeting astrocytes and studying calcium signals in astrocyte processes *in situ* and *in vivo*. *Neuron* **92**, 1181–1195 (2016)