

NEWS

Spontaneous and rare mutations are key in schizophrenia

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Spontaneous and rare mutations, particularly in genes related to networks that regulate neuronal connections, contribute a small but significant proportion of the risk for schizophrenia, report two large studies published online 22 January in *Nature*.

One study, led by **Michael O'Donovan** at Cardiff University in the U.K., found that people with schizophrenia have higher rates of spontaneous mutations in groups of genes involved in synaptic plasticity — the ability of neurons to change the strength of their connections — than controls do¹. They also have more mutations in genes that are targets of FMRP, the protein missing in fragile X syndrome. Many of these **genes have been linked to autism**.

The second study found that a wide variety of rare mutations contribute to schizophrenia and tend to cluster in groups similar to the *de novo* mutations². That study was led by **Shaun Purcell** at the Broad Institute of the Massachusetts Institute of Technology and Harvard University.