

## Molecular networks of cognition

It has been hypothesized that one of the consequences of the highly evolved cognitive capacity of the human brain is the development of increased vulnerability to cognitive disorders. Technical breakthroughs in genomics have allowed us to begin to identify genetic and molecular signatures in the central nervous system that distinguish humans from non-human primates. We have identified novel human-specific patterns of gene expression and regulation in the neocortex, suggesting that the human brain has undergone rapid modifications of gene expression patterns to support our enhanced cognitive abilities. We have also shown that human brain gene expression data can be harnessed to provide insight into active human brain states, identifying genes associated with specific cognitive functions. Together, these approaches are providing functional confirmation of the genetic basis of cognition and cognitive disorders.