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## ResilNet

### Resilience and vulnerability: from neural circuits to networks

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Throughout our lives, difficult events we encounter have a profound impact on our mental well-being. Our capacity to adapt and recover from adversity ultimately influences the health outcomes we experience. Resilient individuals are better able to cope with adversity and less likely to develop mental health problems or they experience symptoms typically less severe. So far, we do not know enough to develop effective strategies that can build resilience in those in which it is low, nor enough to properly identify less resilient individuals who are at the greatest risk of poor mental health.

ResilNet is a new research initiative, which brings together a multidisciplinary network of scientists. We aim to improve our understanding of resilience on multiple levels, including the genetic/polygenic makeup of individuals, psychological factors like thinking styles or behaviour and outcomes such as clinical symptoms developing over time. ResilNet will make use of large databases of thousands of individuals, including people with schizophrenia, bipolar disorder, depression, anxiety and autism, as well as sub-clinical (non-diagnosed) symptoms. Novel computational neuroscience approaches like machine learning and network theory will be applied to large data sets of brain scans (neuroimaging), genomic/"multi-omics", psychological/questionnaire data and cognitive/clinical assessments. This approach will be extended to people at risk of developing mental health problems because of exposure to traumatic situations or stressors, including COVID, war, or earthquakes – paving the way for a better understanding of resilience mechanisms and improvement of health interventions aimed at a wide range of mental health issues.

