

Noel Buckley is Professor of Neurobiology, PI at the Kavli Institute for Nanoscience Discovery, and Associate PI at the Oxford Human Genome Centre at the University of Oxford. Prior to this, he was Head of Basic Neuroscience at King's College London and before that, Head of Neuroscience at the University of Leeds. His research centres on analyzing the gene regulatory networks that underlie neurodevelopment and neurodegeneration, using a combination of genomic, molecular biological, cell biological, computational and bioinformatics approaches. He collaborates extensively with clinical and translational neuroscientists, and computational biologists to orchestrate a multidisciplinary approach. His current work focuses on human iPSC models as cellular models of neurodevelopment and neurodegeneration and uses time-series transcriptome and epigenome data to infer gene networks and potential therapeutic targets. He is a member of the Oxford Drug Discovery Institute and leads the multidisciplinary Translational Neuroscience and Dementia Research Group in the Department of Psychiatry at Oxford. The group comprises molecular and cellular biology scientists, computational biologists and informaticians working with molecular, clinical and imaging datasets, all addressing three main areas of activity and all aiming towards secondary prevention of dementia: (i) by understanding disease mechanisms we seek potential therapeutics; (ii) through discovery of biomarkers we hope to enable preventative trials, and (iii) with informatics and computational biology we utilise large biological and clinical datasets in the support of translational neuroscience. Over the last 2 years he has made extensive use of CRISPR based techniques for gene knockout (CRISPR-Cas9; CRISPR-stop), gene inhibition (CRISPRi) and gene activation (CRISPRa) in human iPSCs and iPSC-neurons. Most recently, he is using AI approaches to analysing cell phenotype and cell state using cellular models of Alzheimer's disease. He has published over 120 papers, including in Nature, Science & PNAS on topics ranging from cell biology, molecular pharmacology, transcription, Huntington's Disease, Alzheimer's disease, epigenetics, stem cell biology and cellular reprogramming. In 2008, he was selected for ISI Web of Science "ISIHighlyCited.com".