A postdoctoral position investigating the mechanistic interplay between DNA damage responses, RNA processing, and human neurodegenerative disease is available at the *Institute of Molecular Genetics* in Prague, in the laboratory of Prof. Keith Caldecott.

DNA single-strand breaks (SSBs) are the most frequent DNA lesions arising in cells and are a major threat to cell survival and genetic integrity, as indicated by the elevated genetic deletion, embryonic lethality, and neurological disease observed if single-strand break repair (SSBR) is attenuated[1]. Based on our recent exciting data[2] we propose that the impact of SSBs on neurodegeneration extends beyond rare DNA repair-defective diseases to more common neurodegenerative diseases including dementia, and are possibly also an etiological factor in normal human ageing. The project will address this hypothesis and will identify the mechanism/s by which DNA strand breaks trigger neurodegeneration, highlighting new potential therapeutic approaches that might alleviate or prevent hereditary and/or sporadic neurodegenerative disease.

The *Institute of Molecular Genetics* is an internationally renowned research institute that provides a stimulating and supportive environment spanning a range of experimental model systems and is located in a cutting edge research facility with state-of-art infrastructure and equipment. The project will also provide opportunity for periods of research in the Caldecott laboratory in Brighton, UK.

The successful applicant will be highly motivated and will have experience of working within a multidisciplinary team. Applicants must have a relevant PhD and preferably expertise in DNA damage responses and/or RNA processing (particularly splicing/transcription). An overview of research in the Caldecott laboratory can be found at https://www.img.cas.cz/research/keith-caldecott/ and http://www.sussex.ac.uk/lifesci/caldecottlab/.

Interested candidates should contact Keith Caldecott (k.w.caldecott@sussex.ac.uk) and/or Hana Hanzlikova (hana.hanzlikova@img.cas.cz).

1. Caldecott, K.W. Single-strand break repair and genetic disease. ***Nat. Rev. Genet***. 9, 619–631 (2008).
2. Hoch, N.C., Hanzlikova, H. *et al*. XRCC1 mutation is associated with PARP1 hyperactivation and cerebellar ataxia. ***Nature***. 541(7635), 87-91 (2017)