

The ninth South West Fly meeting was held at University of Bristol on Wednesday 8 May 2019.

The first talk was entitled single-cell molecular cuisine in the fly brain by Dr Vincent Croset from Prof. Scott Waddell's lab at the University of Oxford. They have been performing single cell sequencing to understand molecular changes underlying thirst and memory in flies. They found thirst modulates gene expression in glia via oxidation, metabolic and lncRNA pathways including through signalling involving a gene they called thirsty 1, whose knockdown decreases drinking in thirsty flies. Next, Dr Joaquín de Navascués of Cardiff University spoke about a (not so) simple bHLH network controls self-renewal and biopotential differentiation in the adult fly gut. His lab study intestinal stem cells and they showed emc seems to work in parallel to Notch which maybe upstream of daughterless. They also suggest bHLH interacts in bi-potential stem cells via E-box sequences such as GATA. After tea, there was an entertaining talk on structure-activity relationships of cryptochrome mediating magnetoreception by Dr Adam Bradlaugh from Prof Richard Baines' lab at the University of Manchester. Adam discussed how the clock gene Cry may help animals like flies respond to magnetic fields. He suggested one theory was via a radical pair mechanism involving alignment of electrons in Cry's FAD domain. He looked at the electrophysiological and circadian behavioural response of Cry mutants to magnetic field and different wavelength of light stimulation. Finally, Dr Giuliana Clemente from Dr Helen Weathers' lab at the University of Bristol spoke about how Collagen-IV filaments guide and facilitate macrophage migration in *Drosophila* embryos. Giuliana talked about the role of *Drosophila* haemocytes which are equivalent to mammalian macrophages in immune surveillance and developmental changes underlying hemocyte migration. She showed hemocytes follow collagen rich tracks during lateral migration and integrins are required to recognise these Collagen-IV bundles. Discussion of all things fly continued over refreshments kindly provided by the Genetics Society and SLS and continued in the pub. Please contact james.hodge@bristol.ac.uk or visit <http://www.genetics.org.uk/events/fly-south-west/> for more details.