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Professional Profile

As a member of the EU pesticide team within Exponent, Dr. Watson project manages regulatory dossiers for Plant Protection Products, produces overall summaries of supporting data and provides technical input to key dossier sections. Before joining Exponent, he completed his PhD in biotechnology, specifically plant epigenetics.

Dr. Watson has particular expertise in DNA, RNA and protein analysis technologies. He has used RNA interference (RNAi) to modulate gene expression in crops and genome sequencing to define new bacterial strains. Other collaborations with international seed development companies exploited chemical modifications associated with DNA to introduce variation in plants.

Academic Credentials & Professional Honors

Ph.D., Plant Genetics, University of Leeds, UK, 2013

B.Sc., Human Biology, Sheffield Hallam University, UK, 2009

BASIS Foundation in Agronomy Award, Harper Adams University, UK, 2016

Prior Experience

Research Associate, University of Leeds, UK 2013-2015

As a member of the Faculty of Biological Sciences, Dr. Watson produced a new derivative of a plant transformation vector and E. coli strain, which will help to ensure the integrity of genes destined for study in plants.

Publications

Brocklehurst S, Watson M, Carr IM, Out S, Heidmann I, Meyer P. Induction of epigenetic variation in Arabidopsis by over-expression of DNA METHYLTRANSFERASE1 (MET1) PLoS ONE 13, 2018.

Hollwey E, Out S, Watson MR, Heidmann I, Meyer P. TET3-Mediated Demethylation in Tomato Activates Expression of a CETS Gene that Stimulates Vegetative Growth Plant Direct 1, 2017.

Hollwey E, Watson M, Meyer P. Expression of the C-terminal domain of mammalian TET3 DNA dioxygenase in arabidopsis thaliana induces heritable methylation changes at rDNA loci. Advances in Bioscience and Biotechnology 2016; 7243-250.

Watson MR, Lin YF, Hollwey E, Dodds RE, Meyer P, McDowall KJ. An improved binary vector and escherichia coli strain for agrobacterium tumefaciens-mediated plant transformation. G3 (Bethesda, Md.) 2016; 6 2195-2201.

Watson M, Hawkes E, Meyer P. Transmission of Epi-Alleles with MET1-dependent dense methylation in arabidopsis thaliana. PloS ONE 2014; 9(8): e105338. doi:10.1371/journal.pone.0105338.