

CASE STUDY

Anthony Wynne

Mr Anthony Wynne, Daphne Jackson Fellow, 2015-2017

Daphne Jackson Fellowship hosted by Plymouth University and sponsored by the BBSRC.

Anthony Wynne undertook a B.Sc. in Biotechnology before holding research positions at the Institute of Food Research and University of Reading examining the microbiology and molecular biology of gut health. In collaboration with commercial partners, Anthony progressed to become the project leader on studies to produce oligosaccharides that selectively promote growth of organisms in the gut. He worked on a number of patented systems, one of which is now a commercially available product. During his career Anthony also developed molecular probe methods to enumerate fastidious anaerobic bacterial species without culture and designed novel fermentation systems to model the human gut.

In 2004, Anthony and his wife made the decision to relocate to the South West and raise a family. As Anthony's wife had a permanent job he felt it was natural for him to become the main carer of their two children and did not secure a research post following their move. In subsequent years, he additionally took on a carer role to his father-in-law who had come to live with Anthony and his family due to his frailty and dementia. When his children started school, Anthony sought to return to research but found the gap in his CV was holding him back from getting job offers and even interviews. He ended up working in boat yards and within the building trade for several years as he was able to fit this work round school runs and childcare. However, his passion for science never left him and he regularly attended talks at the local university. It was one of these talks that started him on the road back into science after a 10 year career break.

Anthony had developed an interest in metabolic diseases and initiated discussions with an academic he saw give a talk at the university. These discussions led to an idea for a research project (which was ultimately not funded) and then an introduction to a colleague who became Anthony's Daphne Jackson Fellowship supervisor. Together they shaped Anthony's ideas into a fellowship proposal which was awarded in 2015. The fellowship research is focused on understanding the biochemical processes taking place in the mitochondria which enable dietary nitrate to reduce the oxygen cost of specific power outputs from muscles during exercise. To do this, Anthony has developed an *in vitro* model using contracting muscle cells controlled by electrical stimulation to mimic exercising muscle. Results to date have shown that the effects of nitrate change as the cells differentiate and when the cells are under nutritional stress. This data has been presented at conferences and included in a research grant application.

Anthony states that the importance of the Daphne Jackson Fellowship to his career is immense and cannot be understated. After years of being told that his skills are out of date, the gap was too much of a risk, the cost of retraining was too high, and so on, whilst doing his Daphne Jackson Fellowship,

Anthony is building a professional network and image within his chosen field, getting current publications on his CV and gaining evidence for future employers that he can pick up new technologies and skills. During the fellowship Anthony's self-confidence has grown. In using his skills to contribute to the scientific community and passing on those skills to younger researchers, Anthony has regained the sense of purpose and wellbeing that he felt he lost during his break. None of this would have been possible without the Daphne Jackson Fellowship.