

CASE STUDY: Dr Stuart Gilfillan, University of Edinburgh

Dr Stuart Gilfillan, Chancellor's Fellow in Geochemistry, University of Edinburgh
My collaboration with CO2CRC commenced with a UKCCSRC funded mission to Australia in November 2013. This mission provided the opportunity to not only attend the annual CO2CRC symposium, where I gained very useful contacts within the organisation, but also a chance to visit the Otway CO₂ injection test site. This directly led to discussions about how our expertise could be used in the upcoming Phase 2B Extension Project.

Following these discussions, I successfully applied for the UKCCSRC Call 2 fund, with the project entitled "Quantifying Residual and Dissolution Trapping in the CO2CRC Otway Injection Site", alongside Dr Gareth Johnson. Following recruitment of a talented postdoc, Dr Sascha Serno, we commenced the project in late 2014. This was the first study of its kind to use oxygen isotopes in a single-well field experiment to reconstruct residual trapping levels.

As well as our participation at the Otway site in 2014, Dr Sascha Serno spent a further four weeks with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and CO2CRC teams in Melbourne in April/May 2015. This trip was funded through the UKCCSRC International Exchange Fund.

Throughout 2015, we were able to present our preliminary findings from the project at multiple conferences, including the IEAGHG Monitoring Network in California in June 2015, the SCCS Conference in Edinburgh in October 2015, and during seminar talks at CSIRO Energy, CO2CRC, Imperial College London and the University of Edinburgh.

The project provided us with the ideal setting to build strong relationships with research partners from CO2CRC, CSIRO and the University of Melbourne, as well as from research institutions in the UK, USA and Canada to continue Edinburgh-based geochemical CCS research in the years to come.

CASE STUDY: Dr Anna Stork, Research Associate, University of Bristol

I've received two grants from the UKCCSRC to conduct research in Canada. The first trip, in April 2015, was to the Geological Survey of Canada in Ottawa and the Aquistore CO₂ injection site in Saskatchewan. It was an exciting time to be there as the injection of CO₂ had only just begun at the Aquistore site. My trip was hosted by Dr. Don White from the Geological Survey Canada, who I had previously collaborated with and, I am happy to say, who I still work with today.

As part of this month-long trip, I was given the opportunity to head to Alberta to visit Carbon Management Canada's Field Research Station (FRS). The station will be the test site for monitoring technologies for CO₂ leakage from a CCS project. It was here that I was able to build the necessary contacts to make possible my second research trip to Canada. I returned to the FRS later in 2015 to deploy equipment and this led to a subsequent four trips to collect data.

Fast forward to 2017 and I am still writing papers with the Geological Survey Canada and I attended the Aquistore project Annual General Meeting earlier this year. As I still have equipment installed in Alberta I will certainly be back to collect data and continue to work alongside my Canadian colleagues on analyses and future research papers.

The experience has given me access to a constantly expanding network of CCS practitioners in Canada, and I've presented my research at two EAGE (European Association of Geoscientists and Engineers) conferences in Norway and Sweden which has helped me, and the University of Bristol, build an international reputation for research into the microseismic monitoring of CCS sites.

