Dear SICSA,

Thank you for supporting this visit to Scotland! It was fruitful for both myself and my wife Katie Siek, who was also supported on a DVF. We left the USA on July 31 and arrived in Glasgow on August 1. (Katie was collaborating with colleagues at Strathclyde.) I went up to St. Andrews, August 3 through 5, to teach at the Summer School on Practical Types. I gave a master class titled *The State of the Art in Gradual Typing*, attended by researchers and students from many of the SICSA member universities. I enjoyed the class and the students asked very many good questions. The materials from this class will be the seed for an introduction and survey that I plan to write about gradual typing. Afterwards, the summer school ended, I commuted to the Edinburgh to begin collaborations with Philip Wadler. We began to explore how to integrate gradual typing into a dependently typed languages. This work continued through the next week and on August 13 we visited Strathclyde and collaborated with Conor McBride. This meeting was quite helpful and revealed some deep difficulties in the research direction we had been attempting. That afternoon I gave a research talk *Polymorphic Blame Calculus* that was attended by researchers in programming languages from Strathclyde Univ., Univ. Glasgow, and Univ. Edinburgh.

On August 14 Katie and I moved to an apartment in Edinburgh and for the next two weeks we both collaborated with researchers at the Univ. of Edinburgh. Philip Wadler and I moved on two our second research topic, which was revisiting the Polymorphic Blame Calculus and working on proofs of parametricity and other properties. During the next two weeks we discovered some improvements to this calculus, in particular, a way to enforce parametricity without the need to evaluate underneath type abstraction. We also made some headway on the proofs. On August 30 Katie and I left Scotland and returned home, but the collaborations have continued. Through the Fall we investigated the relationship between the Polymorphic Blame Calculus and the calculus of Neis et al. 2011. Over the last month we have returned to the parametricity proof, trying the approach used in the Girard-Reynolds Isomorphism. We plan to submit a paper to the upcoming ICFP conference.

Sincerely,

Jeremy G. Siek