

Completion Report for BSAS Scholarships

Name and affiliation: Serap Gonen. The Roslin Institute, UoE

Award Name and value of the award: Alan Robertson Travel Award, £750

Was any additional funding secured to support the activity?

(If yes, please state the value and source of funding): The Roslin Institute student travel award, £500

Start/end date of the award: WCGALP Conference duration, 17-22/08/14

Summary of the award (Briefly describe the objectives and how was it undertaken):

(approximately 300 words)

I applied for this award in order to partially pay for the flights and accommodation from Edinburgh UK to Vancouver Canada, where the World Congress on Genetics Applied to Livestock Production was held. During this week long conference, I gave an oral presentation on part of my PhD project which has been involved in dissecting the genetics of resistance to pancreas disease in farmed Atlantic salmon. Further, I was able to attend talks relating to genetic methods currently being used in animal production, as well as learning about new and developing theories which could potentially be implemented for selection on farms in the near future.

Benefits of the Award:

This is the main part of the report and the two sections below should be approximately 1000 words in total. You may focus on benefits to yourself, to the animal science community, or both – depending on the nature of the activity undertaken.

Benefit of the award to you (e.g. new knowledge or skills, new contacts and collaborations):

Given that the WCGALP is held every four years, this was my only chance to attend and present at this conference during my PhD. I was given the opportunity to give an oral presentation in front of an audience comprised of experts within my field, which exposed me to research groups outside of the UK. This is of extreme value, since I am currently in the final year of my PhD and will soon be applying for

post-doc positions. I also received a job offer and exchanged e-mail addresses with representatives of aquaculture breeding companies who enjoyed my presentation!

The conference was split into sessions of specialised areas, and aquaculture breeding was given three sessions. Breeding in aquaculture is comprised of a small number of groups, therefore the sessions were more intimate, and discussions after the sessions were feasible. We also managed to have a “fish breeders’ dinner”, during which I had a chance to speak to the experts in my field on a more relaxed and social level. This allowed me to finally meet authors whose papers I had read but had never had the chance to meet. Since my talk was on the first day of the conference, I was able to continue discussions all week, which allowed me to fully integrate in to the aquaculture breeding community and for people to recognise me too. By attending all of the aquaculture sessions, I had the opportunity to learn about work being carried out in competitive research labs, and find out about their advancements in the field relative to our research. One-on-one discussions with breeders in different countries made me aware of the different breeding practices on aquaculture farms and the challenges and constraints faced in different parts of the world when breeding for different aquaculture species.

Recently, we have been collaborating with a research group in Norway on the work that I was presenting at the conference. Apart from e-mail contact, I had not had the chance to meet and speak to these collaborators face to face, and to have a full discussion on further analyses to be conducted in order to publish a joint manuscript. During lunches, coffee breaks, and dinners, I had the chance to meet and discuss the project with collaborators, and we agreed upon follow up analyses and a timeline for the analyses to be completed.

Finally, by attending a variety of sessions on bioinformatics, statistical methods applied in genetics, and advances in new technologies, I was able to gain a wider and general knowledge of the available analyses tools, algorithms, and software which I could use on my own data, and to ask questions about running analyses directly to the authors.

Benefit of the award to the animal science community, academic and industrial:

Pancreas disease is currently one of the most problematic viral diseases on Atlantic salmon farms, and is therefore being investigated by many research groups. Since the infection naturally occurs at the adult stage of the salmon life cycle and mortalities due to the challenge are not immediately observed, conducting challenge tests in an aquaculture farm setting in order to study the dynamics of disease infection and spread within families/populations is difficult and costly. I presented analyses of data from a pancreas disease challenge conducted at the juvenile stage of the salmon life cycle, and further demonstrated that genetic parameters obtained from juvenile challenge experiments can be used to select for adult resistant fish. This is extremely valuable for aquaculture breeding companies, since they no longer need to rear fish until the adult stage in order to select for resistance. Indeed, I had many comments from representatives from fish breeding companies on this regard. Further to this, I presented results which show that selecting for pancreas disease resistance using genetic techniques would be possible, providing the opportunity for breeders to move from a family based selection

method which relies heavily on full sibling viral challenge experiments, to a more cost-effective individual-based selection method.

Other supporting information:

I would like to thank the organisers of the Alan Robertson Travel Award for giving me the opportunity to attend and present at WCGALP, it was an extremely valuable experience for me and I learnt a lot of new information and made lots of new contacts.