

# JAMES RENNIE BEQUEST

## REPORT ON EXPEDITION / PROJECT / CONFERENCE

**Expedition/Project/  
Conference Title:**

Society of Molecular Biology and Evolution (SMBE) 2018

**Travel Dates:**

Yokohama, Japan

**Location:**

**Group member(s):**

Stevie Bain

**Aims:**

Present research at Society of Molecular Biology and Evolution Meeting 2018

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**OUTCOME (a minimum of 300 words):-**

In July 2018, I attended the Society of Molecular Biology and Evolution conference in Yokohama, Japan. The SMBE 2018 meeting explored a diversity of topics within the interdisciplinary genomics, proteomics, molecular biology and evolution and had over 1,500 attendees from around the world.

I was invited to present my PhD research on 'Epigenetic mechanisms underlying Paternal Genome Elimination'. Paternal Genome Elimination is a whole genome elimination phenomenon, found in several groups of Arthropods that constitutes a remarkably complex genetic system and an evolutionary puzzle. Interestingly, PGE appears to be regulated by epigenetic mechanisms similar to those involved in mammalian imprinting (DNA methylation and histone modifications), suggesting the existence of an evolutionarily conserved mechanism for recognizing the parental origin of genes. Therefore, presenting in a symposium concerning epigenetic mechanisms and evolution was an ideal scenario in which to gain valuable insight and feedback on my work from leading researchers in the field.

My research also provides an opportunity to develop a manageable invertebrate model system for studying epigenetic mechanisms involved in gene silencing that is currently unavailable to the scientific community, therefore it was beneficial to present this data to the rest of the scientific community.

SMBE18 brought together a large international community of evolutionary biologists, which allowed me the opportunity to learn about the most recent findings and methodologies directly from the researchers involved in the work. During my poster session, I chatted with a number of researchers about my work. Chatting with Soojin Yi, a professor at Georgia Tech, was particularly useful as she has conducted similar epigenetic studies in different model organisms. We discussed my findings in the context of the broader field of insect epigenomics and talked about future collaborations with her lab. I also had time to visit other poster sessions and chat to researchers about new developments in the field of molecular biology, particularly regarding next generation sequencing techniques.

SMBE 2018 was a great opportunity to get feedback on my PhD research before submitting my thesis this year. It also allowed me to network with the experts in my field. I am thankful to James Rennie Bequest for partially funding this trip.