JAMES RENNIE BEQUEST

REPORT ON EXPEDITION/PROJECT/CONFERENCE

Expedition/Project/ Conference Title: 12th International Congress of Cell Biology 2016 (ICCB2016)

Travel Dates: 19/07/2016 – 26/07/2016

Location: Prague, Czech Republic

Group member(s): Ielyzaveta Iurchenko

Aims: Poster presentation, scientific networking, education

OUTCOME (not less than 300 words):-

The theme of the International Congress of Cell Biology this year was Exploring Cellular Structure and Function. Overall, the program of the congress was composed in line with the theme and consisted of multiple sections, including exciting talks from prominent experts in the field. Moreover, the congress organisers invited keynote speakers including Nobel Prize winners Eric Betzig, with a talk about improving imaging with new powerful microscopes; Harald zur Hausen with a lecture about bovine milk and meat as risk factors for triggering stomach cancer and other diseases; and Martin Chalfie with a talk 'Determining neuronal cell fate in *C. elegans*'.

During the congress, I presented a poster titled 'Replication of the *Escherichia coli* Chromosome Terminus is Associated with DNA Double-Strand Break Repair' in DNA Replication, Repair and Recombination section. In this study we have used *E. coli* as a model organism to study DNA double-stand break repair (DSBR) occurring in the chromosome terminus. We have observed that DNA over-replication in the terminus is associated with DNA double-strand break repair (DSBR) at sites flanking the *dif* site in the chromosome terminus. Furthermore, when we induce DSBR in the *lacZ* locus, half way between the origin and the terminus, we observe a stimulation of both DSBR and over-replication in the terminus region. In this poster, I showed the model that links the DNA over-replication and DSBR in the terminus. Within this work, data were collected suggesting the absence of the XerCD/*dif* system leads to a broad distribution repairable DSBs in the terminus region of *E. coli* chromosome that was previously described as 'chromosome guillotining'. Also, I collected data that show what could be the cause of DSBs in the terminus region. During the poster presentation, I received useful comments and feedback from researchers from the field.

Overall, I reckon that I achieved the goals that were set for this conference: received a feedback on my work, attended exciting talks, expanded my knowledge on various topics of Cell Biology and networked with new people, with whom I still keep in contact.