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Report

Task:

| x | Task 1. Organisation of mobilities |

| | Task 2. Subsidising participation in international conferences |

Participant's first and last name, academic degree and title:

Mr. Narayanan Santhanam

University name:

Bydgoszcz University of Science and Technology

Faculty/Department name:

Faculty of Animal Breeding and Biology

Implementation period:

July 17, 2022 – August 16, 2022

Description of actions implemented within the task:

The mobility's main aim was to complete the internship titled "Next-generation sequencing data analysis of reduced-representation bisulfite sequencing" organized by Center for Qualitative Genetics and Genomics department in Aarhus University". This internship's task involved 1) introduction DNA methylation, 2) Theory of sequencing platform and bio-informatics, 3) self-study assignment related to RRBS sequencing, 4) Using linux system to download various bioinformatic tools, creating pipelines for analysis, generating data for RRBS sequence results. 5) Introduction to R language, installing specific tools in R studio and generating results. 6) Attending full day lecture

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on "Genome mapping" at QGG department, 7) Participation of QGG department meeting, interaction with various group leaders/post docs in QGG department and site-visit of new QGG institute building, 8) Oral presentation entitled "Next-generation sequencing data analysis of reduced-representation bisulfite sequencing" to a faculty member of QGG.

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Description of results obtained during the implementation of the task:

Short-term:	- Gained Knowledge of using Linux for genomic data/RRBS sequencing analysis and learnt the basics of installing custom program in R studio using R language scripts. - Creation of custom pipeline for RRBS sequencing and implementation of same pipeline for epigenomic research in Linux environment - Generated result for RRBS sequencing in context of methylated cytosine compared to unmethylated cytosine. - Analyzed the result and presented in form of user readable graphs - Edited a draft manuscript
Long-term:	- Transfer of skills learnt in this internship to my current doctoral project where I can independently analyze RRBS data or other genomic data. - Building and implementing custom pipelines for multi-omics or epigenomic study throughout my study and beyond. - Long term collaboration and cooperation with faculty of QGG (affiliation of second supervisor) and faculty of Animal Breeding and Biology, PBS school in Bydgoszcz (affiliation of main supervisor) leading to successful completion of my doctoral project with joint publication and further collaboration in future research works.

_19/08/22_

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date, Beneficiary signature

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date, Project Manager signature