

FAANGCompGen Task Force 2022-2023 annual Report

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Member of the working group

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Current Activities for 2022-23

The task force had a breakout meeting at PAG meeting 2023 – much of the discussion was around how much emphasis should be centred around pangenomes as opposed to more within and across breed/ species comparative genomics.

Zoom meetings are intended each second month.

March 6: 13 attendances -discussed the need to hold regular meetings although finding a time that works across the world is challenging (every second month). We also discussed the need to gather information about the various ongoing pangenome projects.

May 1: 8 attendances

1. Ongoing projects – generated a spreadsheet to gather information about genomic based projects (pangenomes and comparative genomics projects)

September 4: 7 attendances

2. Ongoing projects - continued
3. Community builder – started to generate a list of people that may be interested in giving a talk.
4. Potential speakers– started to generate a list of people that may be interested in provide pangenome training.

December 6: 90 attendances

Glenn Hickey from UC Santa Cruz Genomics Institute, University of California, Santa Cruz, was invited by Marta Farre on behalf of the TF to give a talk entitled "Building and Using Pangenome Reference Graphs". Glenn is a member of the Human Pangenome Reference Consortium (HPRC) and therefore had substantial expertise to share with the group (a lot of people attended - 90 in total). Thus, a great success.

Focused discussions with attendees from the task force were held at the FAANG workshop at PAG, San Diego, in January 2023 and the ISAG meeting, Cape Town, in July 2023.

Priorities identified across the PAG/ISAG meetings.

- Priority on data visualization and training in comparative and pangenome analysis – training from people involved in the human pangenome (funding needed)
- To facilitate the above we will invite a speaker from the human pangenome project to give a webinar (Glenn Hickey – 6th December 2023)
- Potential funding mechanism to support trainings etc.
 - John Williams and Stephanie McKay as a part of the bovine pangenome consortium are planning to hold pangenome use training sessions (funding for this is yet to be determined).
- Using the Ensembl genome browser, and other tools, for comparative analysis of alternate assemblies for breeds/species etc, provision of training required.
- A SLACK channel could be set up to facilitate communication.

Based on the discussion within our task force at the ISAG meeting in Cape Town content on comparative analysis and pangenomics was added to the Livestock Genomics course to be run virtually by EMBL-EBI in March 2024 (<https://www.ebi.ac.uk/training/events/livestock-genomics-0/>). The course is aimed at

PhD students and postdoctoral researchers needing to learn about methods and approaches for manipulating and analysing livestock genomic data and includes content on the latest developments in pangenomics and using the Ensembl genome browser for comparative analysis.

Future planned activities

- Provide update at the meeting at PAG 2024
- Livestock Genomics course EMBL-EBI 18th-22nd March 2024
- Members of the FT FAANGCompGen are also members of the newly formed ruminant T2T consortium and we are exploring opportunities to work with and capitalize on the RT2T efforts.