

Report on the Second Consortium Meeting of the Horizon 2020 PARAGONE Project



PARAGONE is an EU Horizon 2020 funded research project comprising a partnership of academic and commercial organisations working to develop multicellular parasite vaccines for livestock across the globe.

Subunit vaccines designed to control a number of globally important ruminant parasitic infections have recently shown promise. These vaccines mostly comprise cocktails of several proteins. In PARAGONE, the partners are taking the most promising prototypes and testing them in further trials, as well combining some to make multivalent vaccines. For parasites for which vaccines have proved difficult to develop, fundamental studies are being undertaken to inform on the type of host response that needs to be stimulated to obtain protection. These basic studies will feed into selection of appropriate delivery systems. By blending these streams together, the PARAGONE project is taking the current best multicellular parasite vaccine prototypes to the pre-commercialisation stage. The group recently held their Second Consortium Meeting at the University of Ghent in Belgium.



**The delightful venue of the Second Consortium Meeting: Het Pand in Ghent.
Our host, Prof. Edwin Claerebout, opening the meeting.**

Hosted by Professor Edwin Claerebout of Ghent University's Veterinary School, the meeting provided a vibrant platform for discussion of the progress of the project's vaccine prototypes, as well as allowing an opportunity for partners to network and discuss practical and commercialisation implications of each vaccine. The meeting was attended by representatives from all of the consortium's partners, as well as by members of the project's Scientific

Advisory Panel (Prof. John Gilleard, University of Calgary; Prof. Diana Williams, University of Liverpool; Mr. Peter Jeffreys, GALVMED) and the EU Project Officer, Carlos Arauzo-Burillo. The first day of the meeting was dedicated to presentations and discussion on each of the project's vaccine prototypes and related immunological studies.



The scientific updates covered the wide range of projects in PARAGONE; left-right, Dr Sandra O'Neill (Dublin City University) updating the consortium on immunological and glycan studies on liver fluke, Dr Tati Kuester (Royal Veterinary College, London) telling the group about developing delivery systems for vaccines for laying hens, and Dr Al Nisbet (Moredun Research Institute) and Prof. Jorge Gonzalez (University of Las Palmas, Gran Canaria) getting a grilling from Edwin on sheep worm vaccine studies

On day two, we covered important cross-cutting themes of PARAGONE; the development and validation of new immunological reagents and the use of Next Generation Sequencing in a systems vaccinology approach. We were then honoured to have presentations from two distinguished invited speakers, Prof. Sarah Lustigman (New York Blood Bank), who spoke on ASP proteins as vaccine candidates and adjuvants in filarial infections, and Prof. Bart Lambrecht (Ghent University) who spoke on mechanisms of dendritic cell activation and antigen presentation.



Updates on PARAGONE's cross-cutting themes, immunological tools and next generation sequence analysis; left, Prof Jose Perez (University of Cordoba) and, right, Dr Adrian Carr (FIOS Genomics, Edinburgh)

In the afternoon of the second day, a Stakeholder Workshop was held which covered routes to exploitation of the vaccine prototypes, with presentations from animal health company representatives, EU regulators and veterinarians.



Stakeholder Workshop: ensuring that parasite vaccines are fit-for-purpose. Dr Ruth Clements (Benchmark Animal Health) and Dr Rens van Dobbenburgh (Federation of Veterinarians of Europe) kindly provided their perspective.

Most of the consortium completed the meeting on the second day, but the Management Board met on day three to discuss reporting, dissemination and training whilst the Demonstration Board met to discuss the commercialisation aspect for all the vaccine prototypes.



Important networking time; Dr Peter Geldof (Ghent University) acts as waiter

Overall, it was a hugely successful meeting and, as Coordinator, I returned to Edinburgh delighted with the progress that each prototype is making and impressed by the high level of interaction between many of the partners making this a truly collegiate project to lead. Thank you to everyone for your continued hard work, enthusiasm and support.



Some of the PARAGONE Team in Ghent