Danmarks Grundforskningsfond
Danish National Research Foundation

CEH | CENTER FOR EVOLUTIONARY HOLOGENOMICS

Annual highlight(s)

2021 has been a year of growth for CEH, as we both consolidated the current team, but also elected to expand to bring in 3 new research groups, as such by the end of the year over 60 people were associated with us. Naturally with expanded size comes associated challenges with ensuring cohesion and that our central strategy is not lost - something compounded with the restrictions of the SARS-CoV-2 pandemic. To address this we put considerable effort into our internal communications, but also held our first in person retreat, in September. An event that was memorable for many reasons, not just science but that many could celebrate meeting each other for the first time! Given our expansion has also resulted in the broadening of our research horizons, to support the staff and researchers we also elected to expand our research infrastructure, both adding new laboratory and computational facilities, much of which was funded through our staff's success at obtaining external research funding. In this regard it is clear to us that much of this success has only been possible thanks to the credibility that our research has gained thanks to the initial investment by the DNRF, thus we all remain grateful that the board believed in our vision and have allowed us to do so much in so little time.

With regards to research, not only have we made considerable progress in our original proposed areas that lie at the heart of ecology and evolution, but thanks to the addition in 2020 and 2021 of co-PIs Aizpurua, Andersen, Sicheritz-Ponten, Petersen and Barnes, we are now increasingly active in what we term Applied Hologenomics, i.e. questions ultimately aligned with meeting the health and food production challenges facing us in the 21st century. In this regard, we wish to highlight that the approaches we are taking span directly from the underlying evolutionary theory that our foundation is based on, and as such it is a pleasure to be able to demonstrate the relevance of evolutionary biology in this applied context. And perhaps of equal importance, is the positive feedback we have received from peers in both Denmark and internationally in light of our ideas, with many new collaborations starting enabling us a truly global network. While many of these collaborations have been established to enable groups elsewhere to utilise our approaches, an additional benefit is of course that much of our expansion derives from new Postdoctoral fellows, Phd students and MSc students who have elected to align their research interests towards our goals, thus adding to the cohort of researchers.

In 2021 we also saw the awarding of grants totalling 19mio DKK to our co-PIs, including, we are very proud to say, a third Carlsberg Young Researcher Fellowships (this time to co-PI Limborg). Other exciting new projects funded through external awards include two awards from the Novo Nordisk Foundation to co-PIs Alberdi and Aizpurua, as well as the Director, Gilbert, for the development of new tools for studying host genome-microbe interaction, an award from the Norwegian FHF to expand our interests into phage discovery and application, and perhaps equally important given their role in establishing the careers of young scientists, awards from the Novo Nordisk Foundation and EMBO to support three young scholars in their work.

Lastly, 2021 has also seen a rapid increase in our outreach and dissemination. For example, 40 papers were published, both related to basic research but also consolidating on our reputation as the leader in the topic with several more reviews, including an invited contribution to *Nature Reviews Genetics*. Additionally our students and staff have given over 30 invited talks on Hologenomics topics, even despite the limitations of the Covid-19 pandemic, contributed to over 20 public outreach events, from podcasts to webinars to blogs and public lectures, and we held a first of its kind PhD course on Hologenomics, that we look forward to continuing and expanding into the future.