



# FindingPheno

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## D1.3 Stakeholder Synergy Meeting

WP1 TRAINING, DISSEMINATION, AND OUTREACH

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## Table of Content

1	Excutive Summary .....	3
2	Background .....	3
3	Meeting Report.....	3
3.1	Participants.....	4
3.2	Speaker Programme .....	4
3.2.1	Theme one: Integration and application of multi-omics data.....	4
3.2.2	Theme two: Better and more sustainable agriculture .....	4
3.2.3	Theme three: Industrial application of microbiome research.....	5
3.3	Key Discussions.....	5
4	Summary and Follow Up.....	5



## 1 Executive Summary

The FindingPheno SSM was held in Copenhagen, Denmark, on the 27<sup>th</sup> October 2021. This was a free, invite-only event held in person at the [Holst Auditorium in the Maersk Tower](#) at the University of Copenhagen. During this one-day event, we brought together 53 hand-picked professionals from academia, H2020 research projects, and relevant companies (described in Section 3.1) to discuss the problems and barriers involved in sustainable food production. We had eight presentations from different external stakeholders (see descriptions in Section 3.2 below) along with active discussions and networking between participants. Our main goals were to build a positive reputation for our project, bring outside viewpoints into the FindingPheno project at an early stage, and spark new ideas and synergies for all participants to lay the groundwork towards potential future collaborations.

## 2 Background

FindingPheno's major objective is to develop better computational solutions for the challenges posed by the vast amount of multi-omics data that is currently being produced. These solutions will be made widely known and applicable across the biotechnology industry with specific focus on the role of the microbiome in sustainable agriculture and aquaculture. Industry stakeholder events form a key part of this dissemination strategy, as described in the FindingPheno Plan for Dissemination and Exploitation of Project Results (PDER, [deliverable D1.1](#), also see Table 1 below).

**Table 1: Planned industry stakeholder events in FindingPheno.**

Event (Target Month)	Purpose	Target stakeholders	Respons.
Stakeholder Synergy Meeting (M8)	Soliciting Stakeholder input and creating synergy with other H2020 microbiome projects	Industry end-users, academia microbiome research groups, H2020 microbiome projects	UCPH
Midway stakeholder symposium (M24)	Sharing early FindingPheno results, dissemination of developed models	Microbiome researchers, H2020 microbiome projects	UTU
Webinar on FindingPheno's solutions on the Embassy cloud	Dissemination and Tutorial for a do-it yourself plug and play implementation of FindingPheno's solutions on EMBL's Embassy cloud	Microbiome research groups, SMEs with their own multi-omics data	EMBL
Stakeholder end-user dissemination workshop	Academia multi-omics and microbiome research groups, industry stakeholders	Industry end-users, governmental research facilities	Qiagen, NBio
Final FindingPheno symposium	Showcasing FindingPheno's solutions	Academia multi-omics and microbiome research groups, industry stakeholders	UCPH

This deliverable presents a report on the first of these external events, the FindingPheno Stakeholder Synergy Meeting (SSM), organised by the Outreach Manager and held in Copenhagen on 27 October 2021. Completing this event meets our second project milestone. We will build on the success of the SSM in our future dissemination and outreach activities as described in the PDER and Section 4 below.

## 3 Meeting Report

The FindingPheno SSM was held in the Holst Auditorium, part of the Maersk Tower facilities in Copenhagen University (see [here](#) for more info), and ran from 9.30 to 4.30 on 27<sup>th</sup> October. Catering was provided in house by Chartwells, the catering company contracted by UCPH, and the menu was all vegetarian and mostly lactose free. The meeting agenda comprised an introduction to FindingPheno followed by eight external speakers divided into three theme areas as listed in Section 3.1 below, and time was allocated immediately after each presentation for questions from the floor.



## 3.1 Participants

Planning for this meeting was initiated by the Project Coordinator, Outreach Manager and Innovation Manager in May 2021, with the date and location finalised in early July. After extensive stakeholder analysis and research, a draft agenda and list of potential invitees was formulated then circulated to all project members in July for input and sign off. Personalised email invitations were then sent during August to 49 different projects, researchers or companies. Of these, 32 replied and 23 agreed to have one or more people attend (~50% success rate). Overall we were expecting 55 participants, with aprox. 7 joining via Zoom and the rest attending in person, of which 53 actually showed up on the day.

The 53 attendees represented 16 publicly funded projects (7 H2020 RIA, 2 H2020 IA, 1 H2020 Research Infrastructure, 1 MSCA-ITN, 1 MCSA IF, 2 DNRF Centers of Excellence, 1 GUDP, 1 IFD Grand Solutions) and came from one of ten research organisations (mostly Universities) or 6 companies. They came from 11 countries across Europe, although 30 out of 53 participants were from Denmark and two countries were only represented by remote attendees. Research areas covered were multi-omic analysis, microbiome research and sustainable farming, with each participant having direct experience with at least two of these subject areas. All attendees were asked to sign a GDPR permission form allowing us to store and publicise their names, affiliations and photos from the event online and share their contact details with other participants.

## 3.2 Speaker Programme

### 3.2.1 Theme one: Integration and application of multi-omics data

**FindingPheno**, presenter **Dr Shelley Edmunds (FindingPheno Outreach Manager)**, University of Copenhagen, DK: This presentation was a short introduction to the FindingPheno H2020 RIA with focus on the problems we are trying to solve within computation and integration of the [omics data tsunami](#) along with our approach and expected outcomes.

**HoloFood**, presenter **Assoc. Prof. Antton Alberdi**, University of Copenhagen, DK: Often called our “sister project”, HoloFood is an H2020 IA also coordinated out of the [Center for Evolutionary Hologenomics](#) and has been running since 2019. They focus on measuring molecular interactions across the full holobiont (host animal and its associated microbiota) [after dietary interventions in chickens or salmon](#) in order to develop better animal feed products. This presentation gave an introduction to the project and overview of their activities to date, giving a strong case study of how hologenomics can be used to make food production more efficient and sustainable.

**ELIXIR Food and Nutrition**, presenter **Prof. Lars Ove Dragsted**, University of Copenhagen, DK: This presentation gave an introduction to ELIXIR, the leading EU-wide infrastructure for big data analysis. ELIXIR provides services, computational platforms, research projects and subject-specific communities aimed at making the most of the bioinformatics data being generated in the EU. It also focussed on the [ELIXIR Food and Nutrition](#) community and their efforts to grapple with problems of how to manage, store, integrate and analyse all different types of data, both from omics studies and also physiological and even behavioural data, in order to improve food availability and nutrition. This is particularly relevant to us as FindingPheno has a scaled down version of the same thing.

**PROMICON**, presenter **Dr. Jens Krömer**, Helmholtz-Zentrum für Umweltforschung, DE: This H2020 RIA has [just started](#) and is of interest to the FindingPheno consortium as they are using some of the same technologies as FindingPheno such as machine learning, systems biology, and bacterial ecology to study microbial communities, but focussed on the totally different problem of how to optimise biotechnology applications such as large-scale fermentation. The presentation covered their proposed activities and internal expertise along with how these technologies can be applied in industrial fermentation.

### 3.2.2 Theme two: Better and more sustainable agriculture

**ECOSTACK**, presenter **Prof. Franco Pennacchio**, University of Napoli “Federico II”, IT: What drew our attention to this H2020 RIA is the way they focus on multiple levels, from developing and optimising new technologies or methods for use on the farm, to considering biodiversity and the ecosystem around the farm, through to even



figuring out the best way to support farmers in actually applying their findings. The presentation covered [their activities](#) looking at using microbiome-based products to enhance plant protection, with focus on the plant-microbe-insect axis, and how this fits into the food production value chain.

**EXCALIBUR**, presenter **Assoc. Prof. Nicolai Vitt Meyling**, University of Copenhagen, DK: This presentation introduced the EXCALIBUR H2020 RIA and their activities investigating interactions between the soil microbiome and plants for improved crop production. In particular, it covered their many field trials across Europe testing microbiome-based biofertilisers for strawberries, apples and tomatoes with commercial farmers, showing the strengths and challenges of this less controlled approach over laboratory experiments.

**ROOTPHENOBIOME** presenter **Dr. Tania Galindo Castañeda**, ETH Zürich, CH: The holder of this Marie Skłodowska-Curie Fellowship, Dr Galindo Castañeda, presented to us her investigations into how the [maize root microbiome](#) can affect, and be affected by, the plant genome and environmental conditions to influence yield and plant health. A key part of this study is the ability to grow maize under controlled conditions but in large pots to allow normal root formation. This link between microbiome/host metabolism and overall phenotype is also the main purpose of FindingPheno, although we are taking different methodological approaches, so we could see strong synergies between our projects and are now in discussions about future collaborations.

### 3.2.3 Theme three: Industrial application of microbiome research

**Cargill Animal Nutrition**: Cargill is a large multi-national company working in the areas of food production and nutrition and their Animal Nutrition department develops and sells innovative animal feeds or feed additives. This presentation told us about [their research into](#) understanding interactions between microbiota and gut health of food production species, with focus on how this can be turned into a commercial product.

**Novozymes Human Health**, presenter **Dr. Michael Roggenbuck**, Novozymes A/S, DK: Novozymes are the world leaders in biotech-produced enzymes, holding around 50% of the market, and with a strong history of innovation and new product development in this area. This talk introduced the use of microbes and the microbiome in [human health applications](#), looking at unmet needs in this industry and a high level view of where we could go in the future.

## 3.3 Key Discussions

Each talk was followed by time for questions, with the discussion session facilitated by our Outreach Manager, Dr Edmunds. The audience remained engaged, asking questions after each presentation, and these discussions continued during the coffee and lunch breaks throughout the day. Key points which came up several times during the day were that there is a need for better tools to integrate multi-omic data sets and that everyone struggles with making data structured, accessible and usable beyond an individual project. We will incorporate this in our future messaging as these are areas where FindingPheno can be of value.

Several FindingPheno partners indicated after the meeting that they made useful connections. For example, Qiagen met one of their key customers in person for the first time, strengthening that commercial relationship, while two researchers from different sections of The GLOBE Institute at UCPH found out that they actually have similar research interests and had a fruitful discussion about different mathematical modelling concepts – something they did not realise prior to the meeting despite working in the same overall research institute. Our Outreach Manager received similar feedback from several audience members who found it useful to connect or reconnect with the wider microbiome research community in person after the isolation of the past years due to the Covid 19 pandemic.

## 4 Summary and Follow Up

The meeting was well received and all feedback was positive. Each session kept to time, there were no technical or logistical issues, the catering was good with tasty food which everyone could eat, and the hybrid format worked well. A repeated message afterwards was that the day felt like a professional conference rather than an amateur academic meeting, in large part due to the excellent facilities available to us within the Maersk Tower.



It is important to build on this event in the future. We plan to send follow up emails to all attendees, thanking them for their participation and sharing contact details with other participants where we have permission to do so. FindingPheno partners already have three meetings booked to discuss potential future collaborations with members of other H2020 projects and promises to connect more with several companies as our project matures. We will target attendees from this event for invitation to the HoloFood Conference in 2021 and will consider running more public webinars for FindingPheno using some of the contacts made at this event.

Overall, FindingPheno considers that this meeting was a success and we that we achieved our goals of meeting future potential collaborators (especially from other publicly funded projects), sparking new ideas from the discussions, and building a positive reputation for FindingPheno within the relevant scientific community.

