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## Executive Summary

This document provides a summary of a completed task within Work Package WP4 *Workshops and conferences*, namely: T4.7 *Conference on Integrative Metagenomics* led by the Charles University Prague – BIOCEV (CUNI). According to the Description of Action, the task was planned as a 3-day conference. However, due to the pandemic restrictions, impossibility of all intended speakers find consensus over the date, and illnesses, the format of the event was changed to an online pre-workshop event (1 day) and a live workshop (2 days). Originally two workshops were intended, however, due to speaker illness the event had to be cancelled in the last minute. Compared to the planned 50 participants, the events were attended by 25 actors in total. The task has well reached its intended impacts as detailed in chapter 4 *Outcomes*. This document contains description of the content of the organized events, presents details about the participants and provides detail about the outcomes and benefits brought to CUNI.

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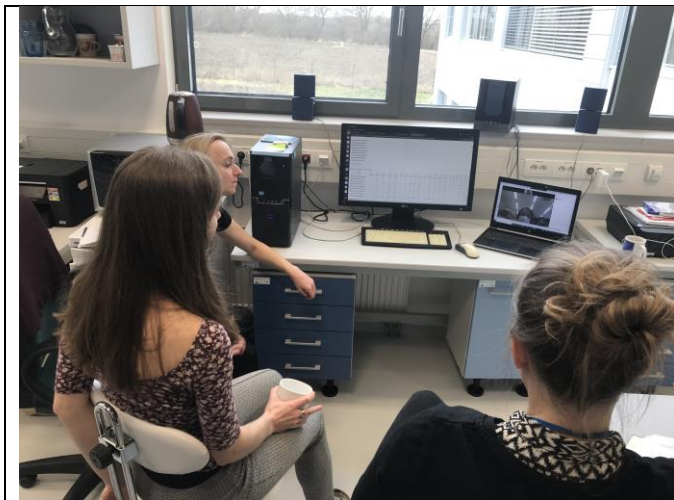
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## 1. Introduction

Deliverable D4.6 *Report from Conference on Integrative Metagenomics* is a part of task T4.6 *Conference on Integrative Metagenomics*. The objective of this task is to have scientists with expertise in genomics, proteomics and metagenomics share their experiences with data analyses, tools and resources for data integration, and suggest and discuss strategies for future collaborative research. The main aim was to present lectures on single-cell transcriptomics, proteomics and metagenomics applied to various mammalian (mouse) and avian (passerines) models. To reach the objective, the task consisted of the online pre-workshop event on microbiome analysis with dr. Jan Provazník and dr. Vladimír Beneš (EMBL) which was held on 3<sup>rd</sup> January, 2022 and the workshop on integrative metagenomics which took place on 7. – 8. July 2022, at CUNI in BIOCEV seminar room.

## 2. Online Pre-Workshop Event

### 2.1. Participants



Attendees of the pre-workshop online event were 5 young researchers (Romana Stopková, Jana Kvičerová, Tereza Matějková, Alica Dodoková, Tereza Otčenášková) and 1 senior scientist (Pavel Stopka) from CUNI. Dr. Jan Provazník and Dr. Vladimír Beneš, both from EMBL, provided an online course (6hrs) in which participants had data from microbiome sequencing and through several consecutive steps they prepared, normalized and analysed the data.

### 2.2. Content

Main of this online event was to teach attendees how to prepare, normalize and analyse datasets from mouse microbiomes that were sequenced at EMBL prior to the event. In collaboration with EMBL we are now preparing publication based on the data from this course which will acknowledge the MICOBION project.

## 3. Workshop

### 3.1. Participants

Attendees of the workshop were scientists and students from BIOCEV/CUNI: we had 17 registered participants from CUNI, two invited speakers from University of Oslo and also 10 students from P. Stopka BIOCEV (Department of Zoology, Faculty of Science, Charles University).





### 3.2. Content

The workshop presented biological problems that were oriented to genomics, single-cell transcriptomics and proteomics applied to biological topics such as spermatogenesis, sperm proteomics, metagenomics and genome sequencing. Agenda was as follows:

#### Morning session

10:00 Tomas Albrecht: Welcoming speech and intro

10:30 Jan Terje Lifjeld: Sperm evolution in birds ([j.t.lifjeld@nhm.uio.no](mailto:j.t.lifjeld@nhm.uio.no)), University of Oslo

11:00 Erica Leder: Single-cell transcriptomics ([eriled@utu.fi](mailto:eriled@utu.fi)), University of Oslo

12:00 Networking Lunch

#### Afternoon session

13:00 Jakub Rídl: Chromosome level genome assembly of two closely related nightingale species ([jakub.ridl@img.cas.cz](mailto:jakub.ridl@img.cas.cz))

13:30 Stephen Schlebusch: The Nightingale Germline Restricted Chromosome

13:45 Manon Poinet: Sperm morphology and performance in relation to postmating prezygotic isolation in passerine species ([manon.poinet@laposte.net](mailto:manon.poinet@laposte.net))

14:00 Kristýna Míčková: The effect of male age on sperm traits in a sexually promiscuous passerine ([kristyna.mickova@natur.cuni.cz](mailto:kristyna.mickova@natur.cuni.cz))

14:30 Aneta Zemanová & Pavel Stopka: Update on passerine sperm proteomics

15:00 Tereza Otčenášková: Sperm acrosome - an organelle with diverse functionality ([tereza.otcenaskova@natur.cuni.cz](mailto:tereza.otcenaskova@natur.cuni.cz))

15:30 Martin Těšický: Evolution of reproduction proteins in passerines: ideas for postdoc project ([martin.tesicky@natur.cuni.cz](mailto:martin.tesicky@natur.cuni.cz))

16:00 General discussion

17:00 Networking Dinner

### 4. Outcomes

We have successfully initiated new collaborations with scientists from University of Oslo (1). On 8<sup>th</sup> July, we managed to complete two publications which will be submitted to international journals (2). One of them is now under review in European Journal of Cell Biology and is entitled: Sperm acrosome - an organelle with diverse functionality (Tereza Otčenášková, 1<sup>st</sup> author, P.Stopka – senior author).

## 5. Conclusions

Task T4.7 *Conference on Integrative Metagenomics* was successfully completed. The task was successful as it led to new collaborations, acquisition of know-how and to preparation new publications.

## 6. Degree of Progress

The deliverable is 100% fulfilled.

## 7. Dissemination Level

Deliverable D4.6 *Report from Conference on Integrative Metagenomics* document is a public deliverable.