



## **Deliverable D-JRP19**

### **Workpackage WP1.1**

Responsible Partner: ISS

Contributing partners: SVA



## GENERAL INFORMATION

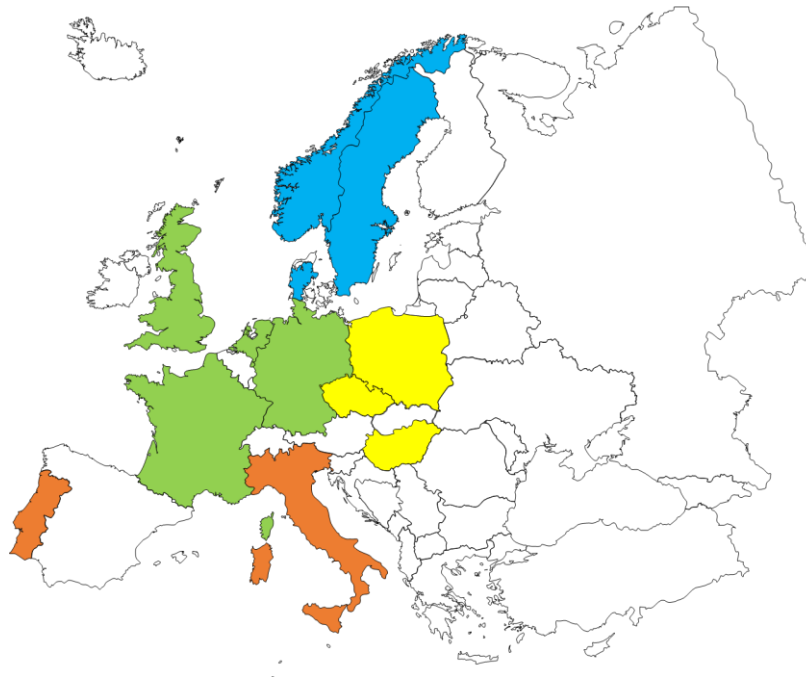
|                                     |   |
|-------------------------------------|---|
| European Joint Programme full title | Promoting One Health in Europe through joint actions on foodborne zoonoses, antimicrobial resistance and emerging microbiological hazards   |
| European Joint Programme acronym    | One Health EJP  |
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| Dissemination<br><i>Author's suggestion to inform the following possible interested parties.</i>  | <div> OHEJP WP 1 <input type="checkbox"/>      OHEJP WP 2 <input type="checkbox"/>      OHEJP WP 3 <input checked="" type="checkbox"/><br/> OHEJP WP 4 <input type="checkbox"/>      OHEJP WP 5 <input type="checkbox"/>      OHEJP WP 6 <input type="checkbox"/><br/> OHEJP WP 7 <input type="checkbox"/>      Project Management Team <input type="checkbox"/><br/> Communication Team <input checked="" type="checkbox"/>      Scientific Steering Board <input type="checkbox"/><br/> National Stakeholders/Program Owners Committee <input type="checkbox"/><br/> EFSA <input type="checkbox"/>      ECDC <input type="checkbox"/><br/> Other      international      stakeholder(s):<br/> .....<br/> Social Media: .....<br/> <u>Other recipient(s):</u> ..... </div> |  |  |



## KICK-OFF ANNUAL MEETING of PARADISE PROJECT ORGANIZED by ISS in ROME (ITALY)



### 1.1. The PARADISE PROJECT

PARADISE (<https://onehealthejp.eu/jrp-paradise/>) is a multicentre collaborative international project (2020-2022) composed by 15 partners from 12 European countries. PARADISE aims at delivering informative typing schemes and innovative detection strategies applicable to food matrices for both parasites. Using NGS technologies (genomics and metagenomics), the project will generate much needed data that will enrich our understanding of the epidemiology and genomics of these organisms, and provide the basis on which improved strain-typing schemes will be developed and rigorously tested. In parallel, strategies (nanobodies, aptamers, use of hybridization probes) to enrich for the target pathogens in different matrices will also be developed and tested. Furthermore, PARADISE will engage in multicentre studies to validate the newly developed methods, testing their applicability across the spectrum of



relevant matrices in an unprecedented effort at the EU level. These new methodologies will form the basis for integrated approaches aimed at controlling FBPs in the European food chain. Technical workshops on multi-locus typing scheme and on enrichment strategies will be organized.

## 1.2 AGENDA of THE KICK-OFF MEETING HELD on 10-11 FEBRUARY in ROME, ITALY

Here we report all the activities launched and discussed during the 1.5 working days of the PARADISE project.

### DAY 1 (10/02/2020)

|               |  |
|---------------|--|
| 8:45 - 9:00   | Registration (ISS)   |
| 9:00 - 9:05   | Welcome – <a href="#">Simone M. Cacciò</a> (Project Coordinator, ISS) and <a href="#">Karin Troell</a> (SVA, Deputy)   |
| 09:05 - 09:30 | Tour of the Table: Quick consortium presentation ( <a href="#">All</a> )   |
| 9:30 - 9:45   | <b>Introduction to One Health EJP</b> ( <a href="#">Simone M Cacciò</a> , ISS)   |
| 9:45 – 11:00  | <b>Introduction to the PARADISE project</b> <ul style="list-style-type: none"><li>• Overall goals and strategy (<a href="#">K Troell</a>, SVA)</li></ul>   |
| 11:30 – 12:30 | <b>WP1: Coordination and impact</b> ( <a href="#">Simone M Cacciò</a> , ISS)   |
| 11:00 - 11:30 | Coffee/tea break   |
| 11:30 – 12:30 | <b>WP2: NGS-based genomics and metagenomics</b> <ul style="list-style-type: none"><li>• [General intro: <a href="#">Yannick Blachard</a>, ANSES]</li><li>• Task 2.1 NGS-based genome study of selected isolates of <i>C. parvum</i> and <i>G. duodenalis</i> (<a href="#">SM Cacciò</a>, ISS, <a href="#">Yannick Blanchard</a>, ANSES)</li><li>• Task 2.2 In silico analyses of metagenomes for detection of foodborne parasites (<a href="#">Frits Franssen</a>, RIVM)</li><li>• Task 2.3 Experimental amplicon-based and shotgun metagenomics for detection of foodborne parasites (<a href="#">Rune Stensvold</a>, SSI)</li><li>• Discussion</li></ul>   |
| 12:30 - 13:30 | Lunch break  |
| 13:30 – 14:30 | <b>WP3: Design, implementation and validation of multi-locus typing schemes</b> <ul style="list-style-type: none"><li>• [General intro: <a href="#">Karin Troell</a> SVA, <a href="#">Christian Klotz</a>, RKI]</li><li>• Task 3.1 In silico selection of informative loci from comparative genomics data (<a href="#">Karin Troell</a> SVA, <a href="#">Christian Klotz</a>, RKI)</li><li>• Task 3.2 Development of MLST schemes for <i>C. parvum</i> and <i>G. duodenalis</i> (<a href="#">Martha Benson</a>, UoS, <a href="#">Simone M Cacciò</a>, ISS)</li><li>• Task 3.3 Interlaboratory comparison of typing schemes (<a href="#">Anne Mayer Scholl</a>, Bfr)</li><li>• Discussion</li></ul> |
| 14:30 – 15:30 | <b>WP4: Parasite enrichment strategies</b> <ul style="list-style-type: none"><li>• [General intro: <a href="#">Marco Lalle</a>, ISS]</li><li>• Task 4.1 Development of pre-DNA extraction enrichment strategies (<a href="#">Christian Klotz</a>, RKI, <a href="#">Gregory Karadjan</a>, ANSES)</li></ul>  |



- Task 4.2 Development of post-DNA extraction enrichment strategies ([Mats Isaksson, SVA](#))
  - Discussion
- 15:30 - 16:00 Coffee/tea break
- 16:00 – 17:00 **General Discussion**
- [Moderators: [Simone M Cacciò, ISS](#), [Karin Troell SVA](#)]
- 17:00 End of day 1
- 20:00 - Social dinner in Rome (Organized by [ISS](#))
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## DAY 2 (11/02/2020)

- 09:00 - 09:30 **Communication and dissemination in OHEJP projects** ([Pikka Jokelainen, SSI](#))
- 9:30 – 10:30 **General Discussion**
- [Moderators: [Simone M Cacciò, ISS](#), [Karin Troell SVA](#)]
  - Focus on Year 3: work plan, milestones and deliverables
- 10:30 - 11:00 Coffee/tea break
- 11:00 – 13:00 **General Discussion**
- [Moderators: [Simone M Cacciò, ISS](#), [Karin Troell SVA](#)]
  - Task allocation
  - Any other business
- 13:00 End of the meeting

## Major discussion points

The discussion focused on three main topics: bioinformatics, collection of samples and SOPs for procedures.

### Bioinformatics:

- \**Cryptosporidium* and *Giardia* need different approaches for sequence data processing
- \*A pipeline is available for *Cryptosporidium*, while for *Giardia* it should be developed (although it may be possible to start by testing that for *Cryptosporidium*)
- \*There are good reference genomes for *C. parvum*. RKI should soon have reference genomes of high quality (from combined PacBio and Illumina experiments) for *Giardia* Assemblages AII and B.
- \*There is a need for a shared platform to store genome data (those available and those to be generated) so that all bioinformaticians can access them.
- \*There is a need for a questionnaire/sheet to gather metadata from collected samples in a harmonised way

### Collection of samples:

- \*The nature of the metadata to be collected was discussed. The minimum information should comprise the host/matrix, geographic origin, and time of collection. Additional information may



include presence of clinical symptoms, possible link to outbreak and all other relevant epidemiological data

\*For WP2, Whole Genome Sequencing

- Send samples to ISS or SVA for clean up and DNA extraction
- Minimum requirement is that they are rich/semirich on (oo)cysts and that typing is performed (at least species identification)
- preferably a broad range of samples representing different countries and/or different hosts
- all partners involved except SLV

\*For WP3 testing markers

- An informative panel of samples is needed. Ideally, the panel should include samples from outbreak and sporadic cases, from different hosts and different subtypes (for *Cryptosporidium*)
- If genomic DNA cannot be sent, at least speciation needs to be done before sending feces.
- Four different partners will run the initial tests (ISS, RKI, SVA and UoS)

\*For WP2 metagenomics

- spiking with three organisms (*Giardia*, *Cryptosporidium* and *Toxoplasma*)
- VRI is responsible for spiking the food matrix
- if partners have metagenomic datasets with known occurrence of these parasites, send to RIVM

SOPs

\*SOPs for DNA extraction and (oo)cyst cleanup will be sent to partners

\*SOPs for spiking salad

\*SOPs for species identification of both *Cryptosporidium* and *Giardia*  
ISS/SVA will compile and share the documents.

Other points of discussion:

\*The OHEJP has set specific communication and dissemination rules. Adherence to these rules is important

\*A steering committee, with one representative for each partner Institute, is needed. ISS will contact by e-mail all partners and ask to nominate the person.

\*A common place to share data and ensure good flow of information is desirable. The OHEJP web page is a logical choice.

\*Suggestions of experts to be included in the advisory board are needed. The advisory board should meet 1-2 times per year.



### 1.3 LIST of PARTICIPANTS

#### Funded partners

| INSTITUTE | NAME and SURNAME   | COUNTRY         |
|-----------|--|-----------------|
| ANSES     | Yannick Blanchard<br>Gregory Karadjan  | France          |
| Bfr       | Anne Mayer-Scholl<br>Smita Sutrave   | Germany         |
| INIAV     | Jacinto Gomes  | Portugal        |
| ISS       | Simone M Cacciò<br>Marco Lalle<br>Paolo Vatta<br>Anna Rosa Sannella<br>Federica Santolamazza<br>Azzurra Santoro<br>Alessandra Ludovisi | Italy           |
| NVI       | Rebecca Davidson   | Norway          |
| OKI       | Judith Olutzer<br>István Kucsera   | Hungary         |
| PHA       | Ioana Bujila   | Sweden          |
| PIWET     | Jacek Sroka<br>Weronika Piotrowska   | Poland          |
| RIVM      | Frits Franssen   | the Netherlands |
| RKI       | Christian Klotz  | Germany         |
| SSI       | Rune Stensvold<br>Pikka Jokelainen   | Denmark         |
| SVA       | Karin Troell<br>Mats Isaksson<br>Emma Östlund  | Sweden          |
| VRI       | Iva Slana<br>Bretislav Koudela   | Czech Republic  |
| UoS       | Martha Benson  | United Kingdom  |

#### Associate partner

| INSTITUTE | NAME and SURNAME  | COUNTRY        |
|-----------|-------------------|----------------|
| CRU       | Rachel M Chalmers | United Kingdom |

Picture of the participants to the kick-off meeting of the PARADISE project organized by ISS in Rome, Italy on 10-11 February 2020.

