

## MEETING VERONA (21-22 November)-INTCATCH

**Monday 21/11/16:** The meeting included representatives of PG,ISS, UNIVR and Technital. The topics discussed were the following:

**1. Preliminary results on water filtration and 16S amplification obtained by PG**

- the filtration system is working and the genomic material recovered from 10L of water is very abundant.
- 16S amplification worked properly even from low input DNA – it is technically possible to decrease the amount of filtered water, however evaluation on the sample complexity must be performed.

**2. Technical/scientific discussion with ISS team on**

- critical points of filtration systems;
- the choice of the suitable volume of water to be sampled (representative sample);
- best practices for collection, transport and preservation of the sample.

**3. The group of Prof. Farinelli presented the drone and its features**

- The possibility to transfer the filtration system on the drone was discussed: it is feasible to install the filtration system on the boat but possible issues are (i) the time required for sampling and (ii) the need to change flux speed. PG and the group of Prof. Farinelli will be in contact in the coming months to evaluate possible solutions at this regard.
- The possibility to allocate the boat sensors and the sucking system deeper (30-50 cm) into the water was discussed.

**4. Discussion on the type of sampling (within an area or fixed) and implications for the boat.** The sampling within an area has some advantages: more representative and easier to be handled by the boat. Since we don't expect strong gradients within the lake this approach should be ok, however it must be validated in comparison with the fixed sensors. We expect that probably the selected area should not be bigger than 50m<sup>2</sup>.

**Tuesday 22/11/2016:** Participants were PG, ISS and AGS

1. Sampling was performed by ISS and PG at the Garda Lake – location Villa Bagatta. A visit to the CSO plant with AGS has also been carried out.
  - PG will test the possibility to decrease the amount of water to be sampled (10L vs 1L); the microbiota complexity of collected samples will be evaluated after sequencing on an Illumina platform.
  - ISS will detect in parallel to the traditional microbiological analysis a panel of microorganisms that can be potential present into surface water. These results may be useful in relation to the bioinformatic analysis.
  - The results of the cultures will be compared with the genomic data produced by PG in the coming months (ISS and PG)
2. For the next tests, selected sampling sites on the Garda lake were defined with AGS.
3. PG and ISS have filtered together in the Lab a sample of the Garda lake to improve and finalize the filtration system

4. PG and ISS discussed the available bioinformatic pipelines to analyse metagenomic data and the strategy to compare high throughput sequencing data with the results of traditional microbiological analysis.