

# Marie Skłodowska-Curie Actions

under Horizon Europe

## Doctoral Networks

21/07/07

| Name                                                                                  | Institution                                                                           | Country                | Public/Private                   | Expertise                        | Beneficiary/<br>Associated Partner |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------|----------------------------------|----------------------------------|------------------------------------|
| Jasminka Hasic<br>Telalovic                                                           | University Sarajevo School<br>of Science and Technology                               | Bosnia and Herzegovina | Public<br>Olawell Inc (US Based) | ML and Microbiome                | Coordinator                        |
| Victor Moreno                                                                         | ICO/IDIBELL                                                                           | Spain                  | Public                           | ML and Microbiome in<br>cancer   |                                    |
| Marcus Claesson<br>Andriy Temko                                                       | School of Engineering,<br>University College Cork<br>Qualcomm Inc,<br>ORSeqBiome Ltd. | Ireland                | Prefers as UCC (Public)          | Bioinformatics and<br>Microbiome |                                    |
| Enrique Carrillo                                                                      | IMDEA FOOD INSTITUTE                                                                  | Spain                  | Public                           | ML in food and nutrition         |                                    |
| Marta Belchior<br>Lopes                                                               | NOVA School of Science<br>and Technology (FCT<br>NOVA)                                | Portugal               | Public                           | ML and biomarker<br>discovery    |                                    |
| Alina<br>Nechyporenko<br>Marcus Frohme<br>Heike Pospisil<br>Tewodros Debebe<br>Aklilu | Technical University of<br>Applied Science Wildau<br>with BIOMES NGS Ltd.<br>Wildau   | Germany                | Public or Private                | ML and Mol Bio                   |                                    |
| Vasilis J Promponas                                                                   | University of Cyprus                                                                  | Cyprus                 | Public                           | ML                               |                                    |
| Karel Hron                                                                            | Palacký University                                                                    | Czech Republic         | Public                           | Comp data, stats, ML             |                                    |
| Leo Lahti                                                                             | University of Turku                                                                   | Finland                | Public                           | Stats, ML, Microbiome            |                                    |

# Concept Note

## **Objectives of the project**

The overarching objective of this Doctoral Network is to provide high-level training involving the development on novel methods in the field of machine learning to tackle the specificities of microbiome data.

## **Scope**

Develop novel, and adapt existing, machine learning and study design methods to tackle the specificities of microbiome data analysis

# Work Packages

WP1 **Management**

WP2 **Open data science framework for training and dissemination**

Leo Lahti (Turku, Finland)

WP3 ***Compositional aspects of ML methods***

Karel Hron (Palacký University, Czech Republic)

WP4 ***Microbiome data augmentation and longitudinal analysis optimisation***

Marcus Claesson & Andriy Temko (University College Cork, Ireland)

**WP5 Search for biomarkers of nutrition and health based on 16S rDNA and WGS data**

Alina Nechyporenko, Marcus Frohme, Heike Pospisil,  
TewodrosDebebe Aklilu (Biomes, Germany)

**WP6 Incorporating phylogenetic structure into machine learning algorithms to assess association of microbiota with disease**

Victor Moreno (Barcelona, Spain)

**WP7 Multi-omics data integration and analysis to disclose trans-omics functional disease networks**

Marta Belchior Lopes (Caparica, Portugal)

## Strenghts

- Focused on methods
- Multidisciplinarity
- Several Universities Affiliated
- Several SMEs

## Weaknesses

- Gender Balance
- Consortium is big
- Define coherent specific aim(s), workpackages structure and work plan

# Next steps

- Jasminka Hasic – coordinator
- Revise and consolidate consortium beneficiary partners
- Identify associate partners and roles
- Define WPs, coordination
- Define specific doctoral tracks
- Prepare the application ( due 16/Nov )