EUROPEAN COOPERATION IN SCIENCE & TECHNOLOGY

COST Action CA18131 ML4Microbiome

STATISTICAL AND MACHINE LEARNING TECHNIQUES IN HUMAN MICROBIOME STUDIES

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Aim & Objectives

To first optimize and then standardize best practice of statistical modelling and ML techniques for human microbiome research

- Evaluate how well existing ML methods address the specific challenges
- Establish benchmark datasets and online repositories – for the community to compare, optimize and develop ML method

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Aim & Objectives

- First optimize and then standardize the use of ML => best-practice SOPs specific to various microbiome data types, human body sites & research questions;
- Investigate opportunities for automating the established SOPs into pipelines for translational use by clinicians and non-experts;
- Define priority areas for novel development of ML/stats applications targeting the microbiome

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WG1

State-of-the-art evaluation & update

Jaak Truu, Estonia

•-> "Tech watch"

•-> Evaluate methods

-> Define priority areas of ML-Microbiome research

WG2

Establish benchmark datasets for testing

Leo Lahti, Finland

-> Agree data types

-> Public benchmark repository

-> DREAM Challenge

WG3

ML Optimization & standardization

(Magali Berland, France)

-> Optimize ML methods

-> Standardize their use

-> Investigate automation opportunities

WG4

Dissemination & training

Domenica D'elia, Italy

-> Disseminate results of WG1/2/3

-> Organize training courses for Action members & others

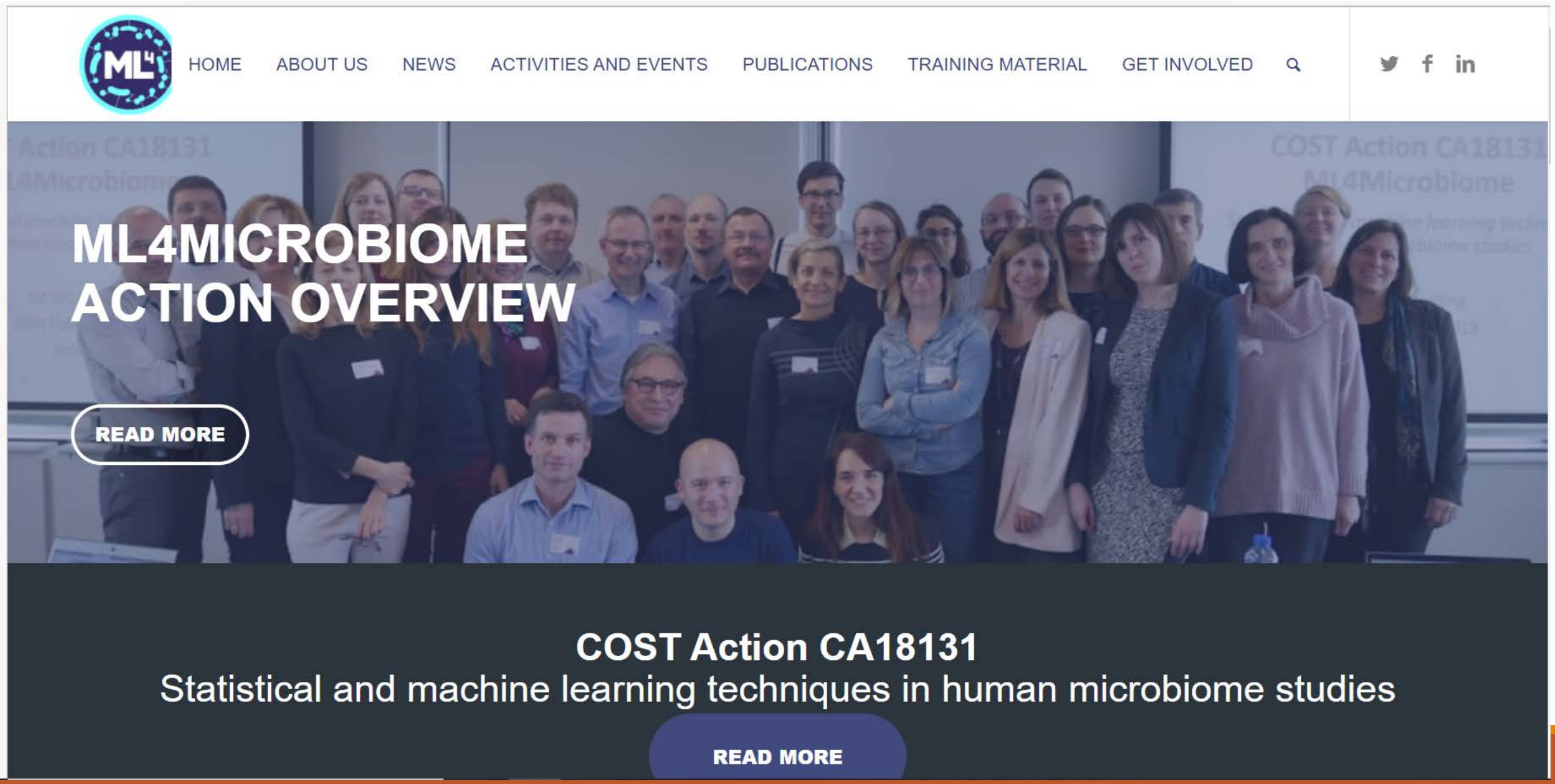
-> Maintain website, newsletters, social media

Action stats

Member countries: 34 (+ Israel)
COST Inclusiveness Target Countries (ITCs): 19 (56%)

67 COST Action Management Committee members

Slovakia
* Cooperating member

Country	Date	Country	Date
France	04/12/2018	Slovenia	30/01/2019
Luxembourg	04/12/2018	Sweden	30/01/2019
Bosnia and Herzegovina	05/12/2018	Estonia	31/01/2019
United Kingdom	05/12/2018	Spain	31/01/2019
Croatia	06/12/2018	Italy	04/02/2019
Ireland	06/12/2018	Czech Republic	08/02/2019
Latvia	11/12/2018	Portugal	12/02/2019
Cyprus	13/12/2018	The Netherlands	07/03/2019
North Macedonia	17/12/2018	Turkey	12/03/2019
Israel *	07/01/2019	Bulgaria	16/04/2019
Greece	10/01/2019	Romania	11/07/2019
Poland	14/01/2019	Lithuania	24/07/2019
Switzerland	14/01/2019	Albania	08/10/2019
Norway	17/01/2019	Denmark	09/10/2019
Hungary	18/01/2019	Finland	07/11/2019
Serbia	22/01/2019	Austria	10/03/2020
Germany	25/01/2019	Belgium	12/03/2020

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