MicrobiomeSupport Workshop

Workshop on Education in Food Systems Microbiome Related Sciences: Needs for Universities, Industry and Public Health Systems (WP1, Task 1.4)

October 11th and 12th 2021 – via Zoom videoconferencing

Day 1 – 11.10.2021 (12:00 - 16:00 CEST)

Moderator: Bettina Schelkle

Opening Session (12:00-12:10)

Martin Wagner
(Austrian Competence Center for Feed and Food Quality, Safety and Innovation FFoQSI, and Institute for Food Safety, Technology and Veterinary Public Health, University of Veterinary Medicine Vienna, Austria)

Session P: Needs for Public Health Authorities (12:10-13:10)

P01 Implications of the microbiome in regulatory science

Background: In the real world of food control, still simplistic century-old hygiene control approaches, such as total viable counts are in use. Do we overjazz when using microbiomics in food control, or is there a real need for more complex data to make food safe?

Marta Hugas
(European Food Safety Authority EFSA, Italy)

P02 Consumer education and health status prediction: Will microbiome-based analysis become an element of individualized public health concepts?

Background: Most public health systems in developed countries suffer from an increasing financial burden arriving from nutrition-dependent disease such as diabetes and other co-morbidities. Will we ever arrive at a level, where educated consumers use microbiome information to steer the physiological capacity of their body?

Manfred Ruthsatz
(Nutrition+HealthCARE, Switzerland)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 818116

P03 The urgent need for microbiology literacy in society to transit to sustainability and evidence-based decisioning by decision takers and stakeholders

Background: Microbial activities pervasively influence our personal lives, sustainable development, and global crises, witness the current COVID-19 pandemic. In order to take appropriate, evidence-based decisions at all levels, an understanding of relevant aspects of microbiology, including microbiomes, acquired in school, is essential (https://sfamjournals.onlinelibrary.wiley.com/doi/epdf/10.1111/1462-2920.14611). The International Microbiology Literacy Initiative is creating a child experience-centric microbiology curriculum, consisting of topic frameworks, teacher aids, class experiments, and much more.

Kenneth Timmis
(Institute of Microbiology, Technical University Braunschweig, Germany)

Break (13:10-13:30)

Session U: Needs for Universities (13:30-14:35)

U01 Microbial bioinformatics: Own scientific career track or high-level staff scientist expertise?

Background: Career tracks are usually driven by the ability to develop and publish relevant results, but also to generate innovations as well as to leverage the visibility of these research results and innovations. Microbiome research requires capacity in bioinformatics, which is often misunderstand as an assisting science; How to overcome the problem?

Thomas Rattei
(Centre for Microbiology and Environmental Systems Science, University of Vienna, Austria)

U02 International microbiome-based food science: Short talks
(15 min per speaker, 10 min talk and 5 min discussion)

Background: Speakers from around the globe shortly present their view on that topic.

Paulo Arruda, Trevor Charles, Luca Cocolin
(PA: Center for Molecular Biology and Genetic Engineering, State University of Campinas, Brazil; TC: Waterloo Centre for Microbial Research, University of Waterloo, Canada; LC: Department of Agricultural, Forest and Food Sciences, University of Turin, Italy)

Break (14:35-14:45)

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Session S: Needs for Schools and Non-Academic Trainings (14:45-15:45)

S01 Is it necessary to integrate basic microbiome knowledge in schools?

Background: As microbiome research and knowledge is evolving very quickly, schools may not be able to cover the latest knowledge. Are there any initiatives that cover this lack of knowledge transfer and do we need to improve the latter?

Daria Rybakova
(Institute of Environmental Biotechnology, Graz University of Technology, Austria)

S02 Do we need to implement basic microbiome research in non-academic trainings? Who and how?

Background: It might be helpful to integrate basic microbiome knowledge in non-academic trainings before students begin to work in industry. Is there a possibility to teach basic microbiome knowledge in professional schools? Who and how?

Magali Cordaillat-Simmons
(Pharmabiotic Research Institute PRI, France)

S03 Engaging with schools and the general public on microbiome research: Case studies from APC Microbiome Ireland

Background: The field of microbiome research is growing rapidly in both scale and complexity, and in parallel so too does the level of interest and knowledge from the general public. As the research impacts on broad societal issues such as food safety and quality, gut health and sustainability, how can researchers actively engage with educators and the general public, to communicate the science and promote a greater understanding of societal challenges? At APC Microbiome Ireland, a series of programs have been developed, from education to the arts, to increase the impact and reach of microbiome research and raise awareness of the importance of the microbiome to the public and policy-makers.

Muireann Egan
(Food Research Programme, Teagasc, Ireland)

16:00 End of Day 1

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Day 2 – 12.10.2021 (13:00 - 16:15 CEST)

Moderator: Bettina Schelkle

Intro: Outcome of Common Ground Workshop - How did we address the various topics? (13:00-13:30)

Core weaknesses are: 1) fragmentation of R&I, 2) predominance of research in silos of health/animal/plant related microbiome, 3) a lack of experimental approaches (lot of observational research), 4) shortcomings in methodologies (low number of samples taken from at different places a", limited emphasis on validation), 5) Lack of knowledge: who is doing what, and 6) lack of awareness.
Against the main obstacles identified, there is need for: 1) clear strategies, 2) collaborations within countries of the EU and on international level, 3) creation of 4 awareness /think to work trans-sectoral, 4) more samples-increase data standards, meaningful curricula, 5) Mapping of program, actors, infrastructures 6) overall – a masterplan for microbiome funding which ensures balance between basic and applied research.

Tanja Kostic
(Austrian Institute of Technology AIT, Austria)

Session C: Needs for Companies and Industry (13:30-14:30)

C01 The competition for human resources in microbiome research: What are the industry needs?

Background: The demand in experts in microbiome science is increasing and industry is starting to build their own microbiome departments including the needed resources. How can the need of more experts be better met in the future?

Colette Shortt
(Food Observatory, University of Ulster, United Kingdom)

C02 Microbiome research and innovation: Cross talk of public and private funding?

Background: Whereas researchers in academia frequently face resource limitations, industry seems to build up huge microbiome departments in a short period of time. Is there enough space for a fruitful collaboration or are universities technology providers with limited impact on the final outcome (final product)?

Michael Ionesco
(Lavie-bio, Israel)

C03 From microbiome to function to innovation

Background: How complex is innovation process? What are the hurdles and the chances?

Christian Kittel
(Biomin GmbH, Austria)

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Break (14:30-15:00)

WORKSHOP / Roundtables

PUZZLING the WORLD in EDUCATION in MICROBIOMICS (15:00-16:00)

Topic 1: Consumer acceptance of microbiome based technical innovations
Moderator: **Rieke Sproten**
(European Food Information Council EUFIC, Belgium)
Rapporteur: **Maria Kazou**
(Laboratory of Dairy Research, Department of Food Science and Human Nutrition, Agricultural University of Athens, Greece)

Topic 2: Educational and human resources needs by industry
Moderator: **Annelein Meisner**
(Wageningen University & Research WUR, Netherlands)
Rapporteur: **Rocio Olmo**
(Austrian Competence Center for Feed and Food Quality, Safety and Innovation FFoQSI, and Institute for Food Safety, Technology and Veterinary Public Health, University of Veterinary Medicine Vienna, Austria)

55 min discussion, 5 min wrap-up for plenum by rapporteur.

Outcome Assessment and Closure of Workshop (16:00-16:15)

Martin Wagner
(Austrian Competence Center for Feed and Food Quality, Safety and Innovation FFoQSI, and Institute for Food Safety, Technology and Veterinary Public Health, University of Veterinary Medicine Vienna, Austria)

16:15 CLOSURE

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