



Personalised nutrition for better health - Targeting the Microbiome –

Session 1: Personalised nutrition for better health: realising the potential

"EU-funding of Microbiome research under FP7 and H2020"

International workshop
KVS – Brussels City Theater
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- 1. Past EU funding**
- 2. Trends**
- 3. Challenges**
- 4. Future**

Human Body sites	Projects
Gut	MetaHIT
Skin	MAARS
Lungs	CFMATTERS
Oral	PROMETEO
Vagina	FORECEE

Microbiome ↔ diseases	Projects
gastrointestinal	META-BIOME
Cancer	CANCERBIOME
Obesity	MetaHIT
neurologic	NSETHIO
respiratory	MAGICBULLET
dermatologic	SYSBIOFUN
metabolic	METABASE
cardiovascular	Metacardis
inflammatory	IMMUNOBIOME
infectious	Virus-X
mental	MiND

EU institutional areas	Projects
Immunology	SYSCID
Diabetes/metabolic disorders	EPoS
Infections control	EVOTAR
Oncology	PreventStoCan
Neurodegeneration	AD-gut
Data and knowledge management	MultipleMS
Agri-food, nutrition	MyNewGut
Plants	PhyMo
Animals	MicroBeeOme
Marine environment	FISHPROBIO
Soil	DARK ENERGY
Evolution, biodiversity generation	EVOMOBILOME

H2020:

**SYSCID, MultipleMS, FORECEE,
GALAXY, AD-gut, EPoS, MiND,
CrUCCial, ...**

FP7:

**METACARDIS, MetaHIT, IHMS,
EVOTAR, MD-Paedigree, MyNewGut,
MAARS, ...**

Projects under FP7 & H2020

- FP7: 91 projects for 243 M €
- H2020: 69 actions for 177 M €

→ In total 160 projects for 420 M €



Trends in Microbiome research

- Metagenomic sequencing for catalogues
- Finding host-microbe-interactions
- Links to diseases: causalities & mechanisms
- More collaborative research
- Going beyond disciplinary silos
- Multi-omics approaches
- Lifestyle, nutrition, environmental data
- Mental disorders, other comorbidity



Challenges

- Understand complex pathologies
- Combination and exploitation of data
- Integrate measuring lifestyle
- Big data analysis
- Pooling of resources
- New data to reduce fragmentation
- Focus on priorities
- Risk of duplications
- Ensure useful collaboration
- Bringing tools to the market
- Legal & ethical issues



Future

- Health research for Personalised Medicine
- Innovative Medicines Initiative
- Personalised Nutrition
- Food production systems
- Soil organisms and plants
- Aquaculture
- Coordination and support

<https://ec.europa.eu/programmes/horizon2020/en/what-work-programme>

<http://www.imi.europa.eu/content/future-topics>

Draft Health topic 'SC1-BHC-03-2018':

"Exploiting research outcomes and application potential of the human microbiome for personalised prediction, prevention and treatment of disease"

- existing data and new complementary data
- functionalities, healthy conditions, resilience
- -omics, dietary data, lifestyle, ...
- clinical tools for predicting and preventing
- € 10-15 M (total budget € 50 M)

→ Deadline 18 April 2018

Draft **IMI Future topics Microbiome**

1. "Genome-Environment Interactions in Inflammatory Skin Disease": investigate genetic, epigenetic, microbiome, co-morbidities,for better diagnosis & therapy
2. "Human Tumour Microenvironment Immunoprofiling": create a database containing integrated cellular and molecular data from the tumour microenvironment of patients
3. "The value of diagnostics to combat antimicrobial resistance by optimising antibiotic use"

Scope, Deliverables, Impact, Architecture:

→ <http://www.imi.europa.eu/apply-funding/future-topics>



Workshop of 16 June 2016

"Smart Personalized Nutrition"

1. Need for transdisciplinary approaches
2. Understand & change eating behaviour
3. Scientific basis is needed but demand driven
4. Bring together a highly engaged "community"
5. Focus on biological and lifestyle causes
6. Science-Policy-Dialogue
7. Education & training
8. Legal & ethical framework (data sharing, ...)



Draft **SC2 topic DT-SFS-14-2018:** **"Personalised Nutrition"**

- Help consumers to achieve their optimal health
- concepts/tools/products/services/warning systems
- Factors: nutritional requirements, lifestyle, preferences, environment (i.e. cultural and socio-economic), etc.
- Target: healthy, diseases, malnourished, vulnerable...
- influencing the motivation and behavioural change
- Prevent diseases
- Innovation actions (TRL 5 to TRL 6/7)
- € 7 M (€ 28 M in total); deadline 13.2.2018



Draft **SC2 topic LC-SFS-03-2018:** **"Microbiome applications for sustainable food systems"**

- concrete microbiome applications which are of benefit to the food system
- microbiota associated to food production systems (plants, soils, animals, marine)
- Innovation actions (TRL 5/6 to TRL 7)
- € 10 M (€ 42 M in total)
- deadline 13.2.2018

Draft **SC2 topic SFS-01-2018 A:**

"Small organisms, big effects for plants - Belowground biodiversity interaction with plants"

- better understanding and applying the benefits of soil organisms for resource uptake, plant growth, development and health
- sustainable plant/soil management
- Research and Innovation action
- Two stages
- deadlines 13.2.2018 and 11.9.2018



Draft **SC2 topic DT-BG-04-2018-2019: "Sustainable European aquaculture 4.0: nutrition and breeding"**

- creation of new value chains, markets, growth
- explore the potential of the microbiome on health and productivity of farmed species
- improve consumers' awareness, perceptions and acceptability of the European aquaculture products and methods
- Innovation action for € 6 M (total € 18 M)
- Deadline 13.2.2018



Draft **SC2 topic SFS-32-2018:**

"Supporting microbiome coordination and the International Bioeconomy Forum"

- Coordination and support action
- Improve coherence and reduce the overlap between national and EU funding in microbiome research
- Exchange knowledge across the scientific and political community
- ensure an efficient use of the available resources
- € 3 M
- Deadline 13.2.2018



HORIZON 2020

Find out more:

<http://ec.europa.eu/programmes/horizon2020/>

<http://ec.europa.eu/research/health/index.cfm?pg=home>

http://cordis.europa.eu/home_en.html

Funding opportunities:

<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>