



EN

Horizon 2020

Work Programme 2016 - 2017

15. Spreading Excellence and Widening Participation

Based on the above threshold, applicant organisations from the following Member States and Associated Countries (subject to valid association agreements of third countries with Horizon 2020) will be eligible to submit proposals as coordinators (the "low R&I performing" or "Widening" countries):

Member States: Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia and Slovenia.

Associated Countries: Albania, Armenia, Bosnia and Herzegovina, Faroe Islands, Former Yugoslav Republic of Macedonia, Georgia, Moldova, Montenegro, Serbia, Tunisia, Turkey and Ukraine.

2. Twinning proposals must involve a minimum of three participants:

a. The applicant organisation must satisfy the condition set out in point 1 above, and must be the coordinator of the proposal.

b. At least two internationally-leading research intensive counterparts that must be coming from a Member State or Associated Country other than that of the coordinating applicant.

3. The requested EU contribution shall not exceed a maximum of EUR 1 million for a period of up to 3 years.



Coordination and support actions

Acronym:

CUMICRO

Title of Proposal:

**MOLECULAR MICROBIOLOGY:
MODERN APPROACHES**

List of participants

Participant No *	Participant organisation name	Country
1 (Coordinator)	Charles University in Prague (CUNI)	Czech Republic
2 (Partner)	Katholieke Universiteit Leuven (KUL)	Belgium
3 (Partner)	European Molecular Biology Laboratory (EMBL)	International Organisation
4 (Partner)	Oxford Brookes University (OXFBU)	United Kingdom
5 (Partner)	The Chancellor, Masters and Scholars of the University of Oxford (UOXF)	United Kingdom



EUROPEAN COMMISSION

Research Executive Agency (REA)

Spreading excellence and widening participation, Science with and for Society

Head of Unit

Brussels,

Jan TACHEZY

UNIVERZITA KARLOVA V PRAZE

Ovocny trh 5

11636 PRAHA 1

CZECH REPUBLIC

Subject: Horizon 2020 Framework Programme

Call for proposals: H2020-TWINN-2015 (H2020-TWINN-2015)

Proposal: 690931 — CUMICRO

Evaluation result letter — Proposal rejection letter

Dear Madam/Sir,

I am writing in connection with your proposal for the above-mentioned call.

Having evaluated your proposal, we **regret** to inform you that it cannot be funded because the score obtained does **not reach** the **minimum threshold** necessary.

1. Topic selection, excellence

2. Partners selection

3. Proposal preparation

- a. Detail study of document concerning the particular call
- b. Consult with successful applicants/seminars
- c. To find high quality professionals/faculty/company

3 parts of the proposal = 3 criteria for evaluation

Excellence

Impact

Implementation

4. Regular control during running the project

Regular reporting to EK, communication with EK project officer

HORIZON 2020

MiCoBion

Microbial Communities in Biomedical and Environmental Areas, and Systems Biology

Call: WIDESPREAD-05-2017

Topic: Twinning

Type of action: Coordination and support action

Duration of the project: 36 months

Coordinating person details:

Name	prof. RNDr. Jan Tachezy, Ph.D.
Organisation	Charles University
Email	jan.tachezy@natur.cuni.cz
Phone	+420 325 873 908

List of participants:

Part no.	Participant organisation name	Short name	Country	Nature
1	Charles University	CUNI	Czech Republic	HES
2	Katholieke Universiteit Leuven	KUL	Belgium	HES
3	European Molecular Biology Laboratory	EMBL	Germany	REC
4	Université Paris Diderot	UPDiderot	France	HES

Excellence

data analysis.

The main aim of the proposed MiCoBion project is to strengthen scientific excellence and innovative research at Charles University (CUNI-BIOCEV) in the field of microbial communities and systems microbiology via promoting experience and research capacity of the team at CUNI-BIOCEV in (i) new high-throughput OMICs technologies (genomics, transcriptomics, proteomics, metabolomics), and (ii) analysis of big data and their integration (the computation of massive data that is optimized for various applications such as metagenomic data analysis, machine learning algorithms for functional predictions, identification of regulatory networks etc.). The scientific excellence in this area of biomedical and environmental research and networking with partner institutions/research laboratories will lead to reinforcement of CUNI-BIOCEV in the competitiveness for research funding, attractiveness for talented researchers, and international visibility (Figure 2).

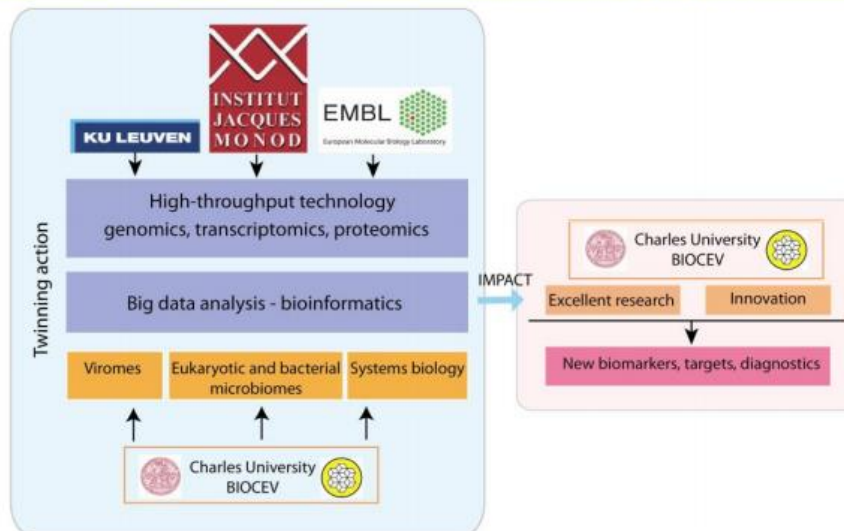


Figure 2: Strengthening scientific excellence and innovative research at CUNI-BIOCEV in the field of microbial communities and systems microbiology

The ultimate research goal of CUNI-BIOCEV is to gain a deeper knowledge of the role of microbial communities in health and in environmental issues (e.g. primary production) to tackle challenges such as discovery of new pathogens (viruses), identification of new biomarkers for diseases, factors for immunity modulation, candidates for vaccines, and new drug targets.

1.1. Objectives

The main goal of the project - strengthening the scientific excellence in the field of systems microbiology and biomedical research, innovation capacity, competitiveness and international recognition of CUNI-BIOCEV will be accomplished through implementation of the following specific MiCoBion objectives:

Specific Objectives:

SO1 To strengthen knowledge and implement new approaches in high-throughput technology applications (genomics, transcriptomics, proteomics, metabolomics) for microbiota analysis and systems biology

WIDESPREAD-05-2017

Coordination and support action

CONFIDENTIAL

MiCoBion – Microbial Communities in Biomedical & Environmental Areas, & Systems Biology

1.2. Relation to the Work Program

WIDESPREAD-05-2017 Challenge	How does MiCoBion address it
The specific challenge is to address networking gaps and deficiencies between the research institutions of the Widening countries and internationally-leading counterparts at EU level. Driven by the quest for excellence, research intensive institutions tend to collaborate increasingly in closed groups , producing a crowding-out effect for a large number of promising institutions.	MiCoBion will tackle networking gaps and deficiencies between CUNI-BIOCEV and the internationally-leading partners (KUL, EMBL, UPDiderot-IJM) thanks to a set of measures aimed at transfer of know-how and provision of training to increase knowledge, and also at networking among the partner institutions during workshops and lectures. MiCoBion will also enhance networking of MiCoBion partners with wider public during dissemination activities. Thus, MiCoBion will open new communication and collaboration channels between the internationally-leading institutions and CUNI-BIOCEV . The collaboration will be intensified also through applications for joint collaborative research projects based on the defined research topics.
	The main aim of MiCoBion is to strengthen scientific excellence at

1.3.2. SWOT analysis

A comprehensive SWOT analysis of the MiCoBion project is provided below. This analysis was created as a basis for the development of the science and innovation strategy.

STRENGTHS	WEAKNESSES
S1: Excellent conditions for research in new laboratories of BIOCEV infrastructure, operating core facilities for genomic, proteomics, and bioimaging	W1: Limited history of joint international grants W2: Limited experience of the Czech project team with European consortium project such as H2020

OPPORTUNITIES	THREATS
O1: Increase excellence of research at CUNI-BIOCEV O2: Intensify the transfer of knowledge among the	T1: Competition from national research teams T2: Competition from international research teams

1.3.3.1. OBJECTIVE 1: Viromes

Microbiome appeared to have crucial impact on all levels of life from marine and soil microbiota to microbiota of gut ecosystems. Investigations of microbiomes is highly complex approach to study for example relationships between the intestinal microbiome, diet, and human health, changes in virulence of pathogenic bacteria and parasites upon changes in microbiota, effect of microbiota on host ontogeny etc. However, most studies are focused on bacteria neglecting the largest group of microbiome members: the viruses. The virome consists of viruses infecting the host, viruses infecting eukaryotes if present in the particular microbiome, bacteriophages infecting prokaryotes and other viruses that may be introduced by foreign materials such as plant viruses in the gut.

Aim 1: Elucidation of honeybee virome and virome changes upon honey bee stress due to parasitic and viral pathogens

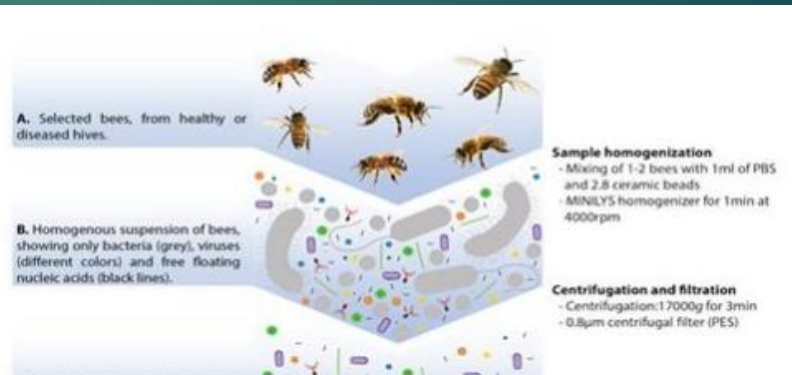
Principal Investigator: Ruth Tachezy (CUNI-BIOCEV)

Collaboration: Marc Van Ranst, Jelle Matthijnsens (KUL)

The European honeybee (*Apis mellifera*) plays a crucial role in agriculture through pollination of a large amount of major agricultural crops, pollinating nearly 153 billion EUR worth of crops world-wide. Historically,

Therefore, it was decided to establish genetic, proteomic and bioinformatics tools to elucidate the correlation of the honey bee virome and virome changes upon honey bee stress due to parasitic and viral pathogens as well as environmental factors.

Specific twinning activities: Transfer of know-how and technology will be accomplished via following specific twinning activities:



Linkages and complementarities

Examples of joint research projects are:

- CUNI-KUL: Metagenomic analysis of the virome of the honeybee (*Apis mellifera*) in the Czech Republic. CELSA, PI Marc van Ranst/Ruth Tachezy, 2017-2018
- CUNI-UPDiderot-IJM: Phytoplankton metallomics: effect of Ocean acidification on iron sequestration". The French National Research Agency. 2016-2019. PI: Emmanuel Lesuisse, UPDiderot-IJM. Co-PI: Robert Sutak
- CUNI-EMBL: Co-operation in a research project CZ.1.07/2.3.00/30.0022 supported by European Social Fund and the state budget of the Czech Republic

Examples of previous collaborations:

- CUNI-KUL: Long term-collaboration in virology and parasitology (M. van Ranst)
- CUNI-UPDiderot-IJM: Long-term collaboration with the research group of JM Camadro at the UPDiderot-IJM in the field of iron uptake and intracellular transport and utilization in microalgae (R. Sutak). The collaboration has resulted in 11 joint publications and in two subsequent collaborative projects of the French National Research Agency. Collaboration on protein analysis of anaerobic protists (JM. Camadro - J. Tachezy), and yeast biology (S. Leon - Z. Palková)
- CUNI-EMBL: Memorandum of understanding between EMBL and BIOCEV signed in 2013.

1.3.4. MiCoBion strategic positioning

The MiCoBion project will be fully compliant with strategies on different institutional levels, addressing EU-wide, national, regional, local as well as institutional challenges and will, thus, strive to become a key actor in implementation of these strategies. The positioning within the individual strategy levels is depicted in Figure 11.

Level 1: Charles University and BIOCEV

BIOCEV was founded as a center of excellence, striving to integrate the excellence principle and create space for novel scientific approaches. Growth of BIOCEV is dependent on the advancement of science and development, and practical application of research outcomes. As such, MiCoBion responds to strategy of BIOCEV as follows:

1. **Accentuation of research areas with excellent research outcomes, that are of importance for the society and industry** – MiCoBion, that builds upon already proven track of scientific results, with the help of advanced partners

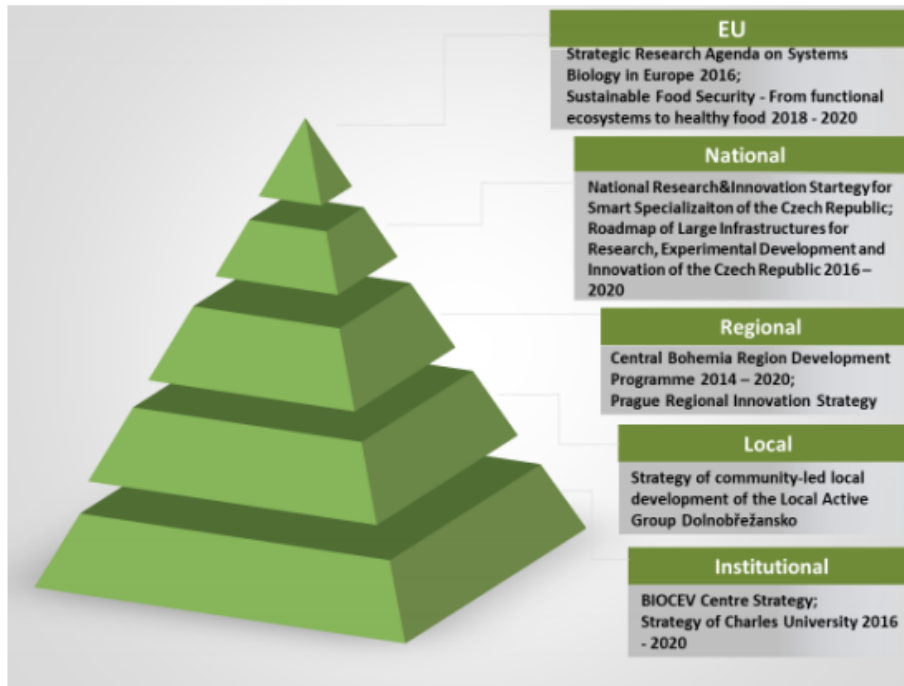


Figure 11: Compliance of MiCoBion with the different levels of strategies

1.3.8. Gender

As increasing scientific excellence and innovation capacity is one of the objectives of the project and different perspectives and approaches are one of the key determinants of successful conduct of research and innovation activities, an equal engagement of both men and women is at the core of the project's success. As such, BIOCEV, on premises of which majority of the project activities will be done, has put in place a *Gender and Age Policy in BIOCEV Project* document an aim of which is to actively promote and enforce gender equality and also to

2. Impact

- Scientific impact
- Industrial impact
- Educational impact
- Technological impact
- Social impact

Measures to maximize impact

Exploitation strategy

Dissemination and communication strategy

Data management

2.2.2. Dissemination and communication strategy (including Data Management Plan)

Ludmila Součková of CUNI will be responsible for dissemination and communication. She will monitor the latest achievements of the project and will suggest the best dissemination channels for scientific, industrial, and public awareness.

The dissemination of the project's achievements can never jeopardize the potential protection of generated intellectual property (e.g. patent, product design) and further industrial application. Therefore, before any dissemination activity (publication, presentation, etc.) **strict rules of prior notice to all partners will be applied, according to EC guidelines**. Partners will have the possibility to refuse dissemination of their own know-how (background or results) when it could potentially harm the partner's interests. The Dissemination Manager in

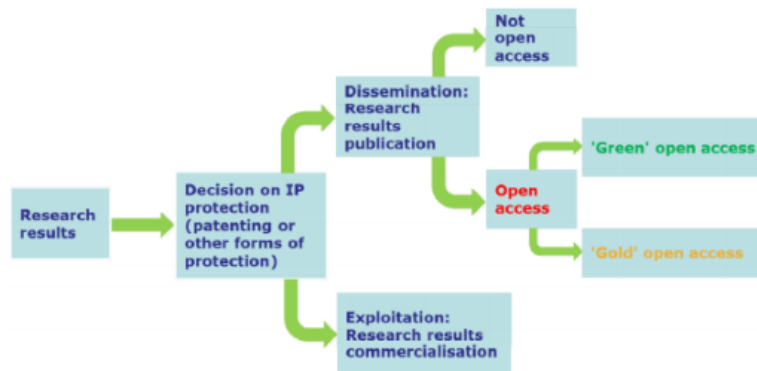


Figure 13: Decision making process on publication/protection of scientific outcomes

3. IMPLEMENTATION

3. IMPLEMENTATION

3.1. Work plan – Work Packages, Deliverables and Milestones

Project's Work Packages and their objectives:

WP	Title	WP's Objective
WP1	Training	To increase excellence and capacity of young researcher in high throughput techniques, and big data analysis and their applications in investigation of microbial communities via courses, summer schools, and joint supervision of young researchers.
WP2	Knowledge transfer	To gain practical experience of CUNI staff members in cutting edge technologies and approaches established in partner laboratories to perform collaborative research on excellent level.
WP3	Professional growth	To boost excellence via invitations of experts in microbial community research, related technologies and innovation to CUNI-BIOCEV.
WP4	Workshops & Conferences	To organize brainstorming on current results of the research, networking among specialized experts, result presentation and networking with application sphere.
WP5	Dissemination & Exploitation	The dissemination of the project's achievements to the scientists, commercial sphere and to the general public and development of a plan for exploitation of the project's outcomes
WP6	Management	To perform all required administration organizational activities in order to successfully complete the project.



PROJEKTY — 18.12.2019

Media Training for Scientists



PROJEKTY — 17.12.2019

České zobrazovací facility se staly součástí Euro-BioImaging ERIC



PROJEKTY — 12.12.2019

V nakladatelství Springer-Verlag vychází druhé vydání knihy prof ...



PROJEKTY — 11.12.2019

Lecture: Multiple roles of nutrient



PROJEKTY — 20.11.2019

Lecture: Advanced microfluidic science research



PROJEKTY — 23.10.2019

Lecture: The long winding road to nitrogen catabolite repression in





Project Continuous Report

810224 (MiCoBion) CSA
 THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION
HORIZON 2020
 Call: H2020-WIDESPREAD-2016-2017
 Topic: WIDESPREAD-05-2017 Unit: REA/B/05

Summary for publication

Deliverables Ethics, DMP, Other Reports

Milestones

Critical Risks

Publications

Disseminat...

Patents (IPR)

Open Data

Gender

ABS Regulation



Deliverables, Ethics, DMP, Other Reports

For each Deliverable, a single file (max 52MB) can be uploaded

Show Filters Clear Filters

Deliverables

WP No	Del Rel.	Del No	Title	Description	Lead I	Nature	Dissemir	Est. Del. De	Rev. Due D:	Receipt Dat	Approval Date	Status	
WP1	D1.1	D1	Report on completion of E	Report on completion of EMBL courses (yearly up...	EMBL	Report	Confide	28 Feb 20				Pending	
WP1	D1.2	D2	Report on completion of K	Report on completion of KUL course	CUNI	Report	Confide	30 Nov 20	31 May 20			Pending	
WP1	D1.3	D3	Report on organized cours	Report on organized courses Methods of Function...	EMBL	Report	Public	30 Jun 20				Pending	
WP1	D1.4	D4	Report on organized cours	Report on organized courses Computational Genomics	CUNI	Report	Public	28 Feb 20	25 Feb 20			Pending	
WP1	D1.5	D5	Organized Advanced cours	Organized Advanced course in metagenomics and O...	CUNI	Report	Public	31 Jul 20		31 Jul 20	21 Apr 2020	Approved	
WP1	D1.6	D6	Organized summer school	Organized summer school at BIOCEV	CUNI	Report	Public	31 Aug 20				Pending	
WP1	D1.7	D7	Joint supervision program	Joint supervision programme completed	CUNI	Report	Confide	28 Feb 20				Pending	
WP2	D2.1	D8	Short stay of PIs in collab	Short stay of PIs in collaborative laboratories...	CUNI	Report	Confide	31 Oct 20	07 Dec 20	08 Dec 20		Submitted	
WP2	D2.2	D9	Visits at KUL to get experi	Visits at KUL to get experience in a single DNA...	CUNI	Report	Confide	28 Feb 20	25 Feb 20			Pending	
WP2	D2.3	D10	Short- and mid-stay to lea	Short- and mid-stay to learn methodologies for ...	CUNI	Report	Confide	31 Mar 20	25 Feb 20			Pending	
WP2	D2.4	D11	Short- and mid-stay individ	Short- and mid-stay individual training of young...	CUNI	Report	Confide	28 Feb 20				Pending	
WP2	D2.5	D12	Reports from short-stay in	Reports from short-stay in offices for technolo...	CUNI	Report	Confide	31 Aug 20				Pending	
WP3	D3.1	D13	Report on T3.1 expert visi	Report on T3.1 expert visits. The expert visits...	CUNI	Report	Confide	28 Feb 20				Pending	
WP3	D3.2	D14	Report on T3.2 and T3.3 e	Report on T3.2 and T3.3 expert visits (yearly u...	CUNI	Report	Confide	28 Feb 20				Pending	
WP3	D3.3	D15	Participation of expert in l	Participation of expert in PhD committees organ...	CUNI	Report	Confide	31 Dec 20				Pending	

Validate

3.2. Management structure and procedures

3.2.1. Decision making bodies

Preparation of such ambitious and comprehensive project as MiCoBion requires an effective, efficient and well-defined management structure. The proposed management scheme must ensure a flawless exchange of know-how among the proposed WPs. It must provide interfaces with the various stakeholders, mechanisms to take smart decisions at the right time during the project, as well as administrative, technical and scientific coordination of the project. Moreover, the defined structure will ensure an effective dissemination and communication. The MiCoBion project management structure was designed based on experience and best practices from previous collaborative projects. The structure is illustrated in Figure 14.

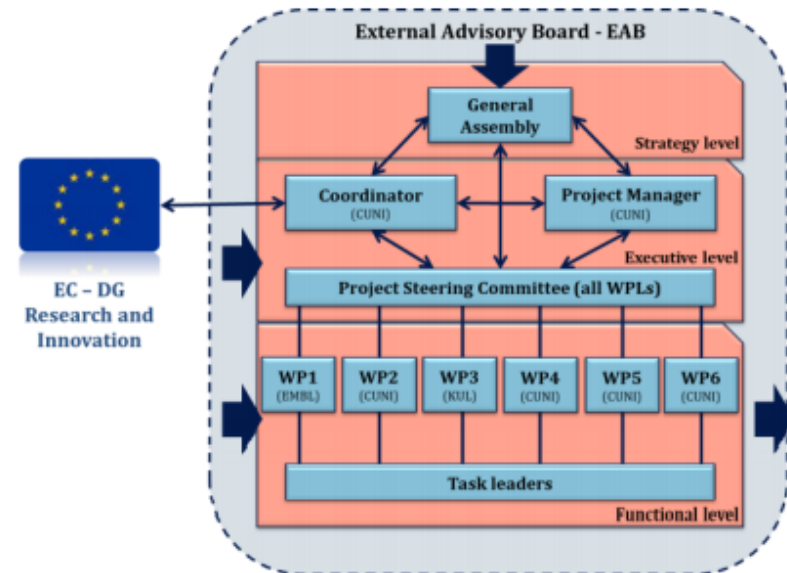
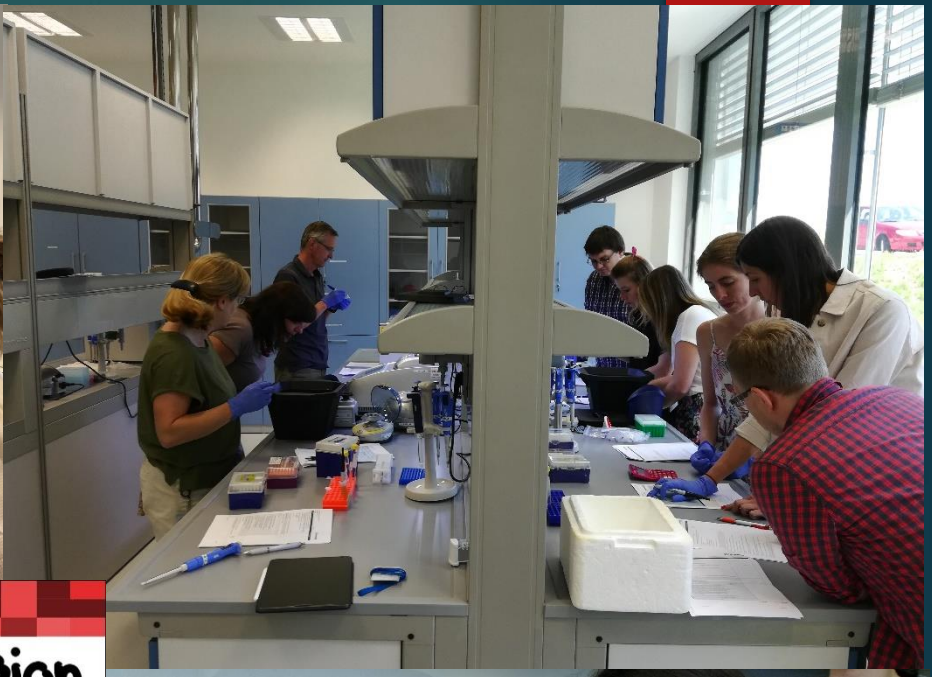


Figure 14: MiCoBion project management structure

3.4 Resources to be committed

4. Members of the consortium
5. Ethics and Security



MiCoBion

