Please return this document at

Horizon2020@recherche.gouv.fr

**Partner search**

**Date (DD-MM-YY)**

* **(\*) Indicate numbers of relevant topics for Green Deal call:**

|  |
| --- |
| **LC-GD-8-1-2020** |

* **Quick description of the project**

|  |
| --- |
| **(describe the objectives, activities, partners requested and their skills)** |

* **(\*) Do you intend to apply as ? :**

**Coordinator: No**

**Participant: Yes**

**(\*) Either Description of the expertise requested (up to 1000 characters) - *specify which points of the "expected impact" of the call you are targeting***

|  |
| --- |
| **Xxxxxxxxx****+ key words :**  |

**Or Description of the expertise proposed (up to 1000 characters) - *specify which points of the "expected impact" of the call you are targeting***

|  |
| --- |
| The “big catalogue of compounds” that could be possible to use in plant defense system against toxic waste material are secondary metabolites. It’s assumed that more than 200,000 secondary metabolites are produced in plant kingdom and in many both structure and biological function is still unknown. In plants, phenolic and hydroxycinnamate conjugates compounds belong to the most relevant groups of secondary metabolites. From these groups, the phenylpropanoids have many important functions as inducible physical barriers and as chemical antagonists for the invading pathogens but also reductants of toxic materials in the soil. Method edit genome (CRISPR/CRISPRi/or RNAi)/expression of gene included in biosynthesis of these compounds and study, which are/or not really involved and which of them have some function against abiotic stresses (drought, salinity, toxic waste) are still unknown. Such plants can be used as “bio-green-detectors of toxic waste” and at the same time can be as "bioremediators" and/or "biodegradators" of monitored toxic waste.* *Better understanding of emerging and a persistent pollution problem of human and environmental health relevance*
* *Solutions for better (bio)remediation and detection technologies, including real time monitoring approaches*

**+key words: secondary metabolites, RNAi, CRISPR, toxic waste, bioremediation, biodegradation, biomonitoring** |

**Organisation information**

|  |
| --- |
| **Mendel University in Brno, Zemědělská 1/1665, 613 00 Brno, Czech Republic** |
| **Type of organisation:****□ Enterprise □ SME XAcademic □Research institute □ Public Body □ Other: Association** |
| **Former participation in FP European projects?****XYes □ No** |
| **Web address:** [**www.mendelu.cz/en/**](http://www.mendelu.cz/en/)**;** [**https://ucb.af.mendelu.cz**](https://ucb.af.mendelu.cz)**;**  |
| Department of Chemistry and Biochemistry (DCB) is a part of Faculty of AgriSciences of Mendel University in Brno with 100 employees performing their research on the laboratory area of over 750 m2. The department is also a part of Central European Institute of Technology (CEITEC), which has the main goal in creating the high-tech centre of research with excellent instrumentation background. Research and development of advanced materials and approaches in biological chemistry is the main vision of Department of Chemistry and Biochemistry. There are nine laboratories dedicated to key areas such as bioanalytical chemistry, experimental microbial and animal biochemistry and biology, and, last but not least, algae and plant biotechnology and their utilization in agriculture, environment, functional food and plant protection. The instrumental equipment available at DCB enables to the researchers to participate in a large number of grant projects at all levels – internal, national and international. Recent and current ongoing projects awarded by European Commission include:  * 2019-2023: H2020. InteGRated systems for Effective EnvironmEntal Remediation, „GREENER“
* 2018-2022: ERC-2017-STG, “ToMeTuM”
* 2017-2020: H2020-GALILEO-GSA-2017, “GreenPatrol“
* 2017-2018: H2020-WIDESPREAD-04-2017-TeamingPhase1, Back4Future
* 2015-2017: H2020-JTI-IMI2-2014-02-single, “FILODIAG“
* 2009-2013: MAS, Nanoelectronics for mobile AAL-Systems, 7 FP ENIAC
 |

**(\*) Contact details**

|  |  |
| --- | --- |
| **Contact person name** | **Ing. Dalibor Húska, Ph.D.** |
| **Telephone** | **+420 724 528 526** |
| **E-mail** | **dalibor.huska@mendelu.cz** |
| **Country** | **Czechia** |

**(\*) –Mandatory**