# HORIZON 2020

**PARTNER SEARCH**

|  |
| --- |
| **Call Information** |
| **Call title** | EIT-Food-Food4Future - Sustainable Supply Chain from Resources to Consumers |
| **Call identifier** | EIT KICs Call 2016 |
| **Funding scheme** |  |
| **Deadline** | 14 July 2016 17:00:00 |
| **Partner search deadline** | N/A |

|  |
| --- |
| **Project Information**  |
| **Project title** | Health risk assessment of heavy metals for population via consumption of food |
| **Abstract of the project** | Food safety is a major public concern worldwide. Due to the increasing demands for food is necessary to put greater emphasis of food safety and more important is draw the attention to the risks associated with consumption of contaminated foodstuffs. The heavy metal pollution is one of the problems that arise due to the increased uses of fertilizers and other chemicals to meet the higher demands of food production for human consumption. For good hazard assessment of heavy metals in food is necessary to know not only the total concentration of heavy metals, but also their mobile, bioaccessible and bioavailable forms. The aim of this project proposal is to provide our experiences in the issues of bioavailability and bioaccesibility of metals in food and other food sources for human. Basic analysis of total metal content (Cd, Pb, Zn, Cu, Fe, Co, Cr, Ni, Se, As, Pt, Hg, Mn, Ca, Mg, Au) are determined using atomic absorption spectrometry (ContrAA700, SpectrAA 280Z, 200 Agilent, AMA254) after microwave mineralisation at ETHOS ONE or after dry ashing digestion depending on matrix. For determination of the various forms of mercury (Hg2+, CH3Hg+, C2H5Hg+, C6H5Hg+) we use optimized method HPLC-CV-AFS (Perkin-Elmer, PSA Millenium Merlin) after microwave extraction procedure (ETHOS ONE). We are able to determine beside total and pseudototal metal contents also bioaccessible forms of metals using in-vitro gastrointestinal UBM Barge method. A very important part of human risk assessment of heavy metals in foods is study of transport of bioavailable metal forms from the environment, especially from soil and water environment to the primary dietary sources and food. For the determination of bioavailable forms of metals in environment we use diffusive gradient in thin films (DGT) technique. We would like to participate at the project dealing with the evaluation of quality and safety of food and primary dietary sources and food, where we can apply our experience in assessing the human health risks of heavy metals. |
| **Further information** | TRL of our sub parts is 1.For more, please, see http://af.mendelu.cz/239 |
| **Proposal development stage** | N/A |
| **Requested funding** | App. 400 000 Euro |

|  |
| --- |
| **Proposer** |
| **Type of organization** | University |
| **Role in the project** | Partner |
| **Previous FP experience** | MAS, Nanoelectronics for mobile AAL-Systems, 7 RP ENIAC (2009-2012)Ultra-Fast Molecular Filovirus Diagnostics „FILODIAG, H2020-JTI-IMI2-2014-02-single, H2020 (2015-2016) |

|  |
| --- |
| **Target Partner(s)**  |
| **Type of organization** | SMEs, Universities, Research Organization |
| **Required skills and expertise** | * Integration
* Ensuring of the management and organization of the project including sampling of food and food products
* another in- vivo/in-vitro bio accessibility test
 |
| **Role in the project** | * We are looking to be partner
 |
| **Preferred countries** | N/A |
| **Keywords** | Metals, speciation analysis, UBM test, DGT, atomic absorption spectrometry,  |

|  |
| --- |
| **Contact Details** |
| Mgr. Dagmar Hegerová, Ph.D.Project manager Department of Chemistry and BiochemistryMendel University in BrnoZemědělská 1/1665, 613 00 Brnoe-mail: dagmar.chudobova@centrum.cztel.: +420 545 133 365 |