Description of Funded Research Projects
1st Call for H.F.R.I. Research Projects to support Post-Doctoral Researchers

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Research Project Title:

Development of an Innovative Traceability System for Controlling Food Safety in Sustainable AgriFood Supply Chains

Principal Investigator:
Ioanna Apostolidou

TRUSTFOODS

Popular Title:
Development of a novel traceability system for safe consumption of organic products

Scientific Field:
Social Sciences

Host Institution:
Aristotle University of Thessaloniki, Faculty of Agriculture, Forestry and Natural Environment

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Food is vulnerable to a range of hazards through the supply chain and possible failures can affect product safety. Moreover, new hazards and risks are emerging and often related to accidental or intentional contamination. The main goal of the current proposal is to develop an innovative suite of Internet of Things (IoT) - enabled sensing technologies data analytics and an original integrated Decision Support System (DSS). This novel system will investigate the key stakeholders through the supply chain, offering a multidimensional assessment and financial analysis.

The TruStFoodS project proposes an innovative DSS architecture, comprising of a novel service support platform capable of managing big volume data and processing information for the agrifood sector. The DSS will employ cognitive algorithms based on machine learning architectures forming the basis and ensuring food safety. TruStFoodS will also deliver a breakthrough multidimensional impact assessment, effectively using a combination of quantitative and qualitative techniques, and offering a research framework for quantifying impacts regarding the adoption of the innovative “traceability system”. The framework of TruStFoodS is based on a holistic supply chain approach, efficiently combining artificial intelligence approaches and socioeconomic impact assessment tools, guaranteeing an exploration of every critical process related to food safety and consideration of all stakeholders involved.

Project Impact on Society

The main societal impact of this project is the opportunity to increase the overall transparency and the consumer confidence towards organic products' safety. Furthermore, improve the transparency of the food supply chain and manufacturers' sense of responsibility, based on IoT technology that delivers real-time information direct to the consumers and other stakeholders. The innovative "traceability system" designed can help reduce the food fraud incidents and its adoption will have a positive social impact, with National and Regional dimensions, in relation to controlling food security.

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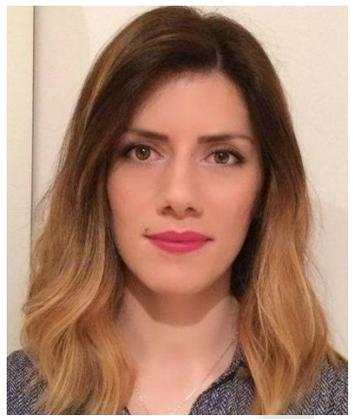
To me, H.F.R.I. funding would mean...



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This funding provides the opportunity to develop Artificial Intelligence applications to tackle problems regarding the production of organic products of high nutritional value and quality. Furthermore, cutting- edge technologies can be assimilated in the primary sector and relative market sectors. The introduction of novel intelligent systems leads to familiarizing the end users with AI applications, triggering the demand for the development for similar technologies. Moreover, securing traceability and transparency in the agrifood supply chain regains consumers’ trust in the food system, contributing in sustainable food production and consumption. The results that will be derived from present research program will be utilized for the publication of scientific articles in international journals. The experience that will be acquired from this participation will be employed for the further preparation of future scientific proposals and patent applications.

The Principal Investigator,

Ioanna Apostolidou

Funding

Amount: **370,000 €**

Duration: **36 months**

Foundation: **H.F.R.I.**

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