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## **COST ACTION GREENERING – DATA COLLECTION**

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**First name, Family Name: Amparo Jiménez Quero**

**Type (Academic or Industrial): Academia**

**Country: Sweden**

**Leadership position in the COST: MC member**

**Working Group in which you are involved: WG1**

**E-mail: amparojq@kth.se**

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**Laboratory/Company: Royal Institute of Technology (KTH) Stockholm, Sweden**

**Laboratory/Company info (limited to 400 characters):** KTH, university founded in 1827, is the Sweden's largest technical research and learning institution and home to students, researchers and faculty from around the world dedicated to advancing knowledge. KTH is working with industry and society in the pursuit of sustainable solutions to some of humanity's greatest challenges: climate change, future energy supply, urbanization and quality of life for the rapidly-growing elderly population.

**Link to the home page of the Laboratory/Company:**

<https://www.kth.se/profile/franvila/page/carbohydrates-building-blocks-of-life>

**Fields of expertise (limited to 400 characters):**

- Biotechnological exploitation of carbohydrates from biomass for applications as functional biobased materials and for understanding the nutritional and health implications of carbohydrate-rich foods, aligned with the sustainability goals and towards the transition to a bio-based economy
- Bioanalytical glycomic approaches (involving chemo-enzymatic fractionation, advanced chromatography, mass spectrometry, and statistics/bioinformatics), with supramolecular structural and biomechanical analyses.

**5 Main publications or patents:**

- Jiménez-Quero, A. *et al.* (2016). Itaconic and fumaric acid production from biomass hydrolysates by *Aspergillus* strains. *J Microbiol Biotechnol*, 26(9), 1557-1565.
- Jiménez-Quero, A. *et al.* (2017). Fungal fermentation of lignocellulosic biomass for itaconic and fumaric acid production. *J Microbiol Biotechnol*, 27, 1-8
- Requena, R. *et al.* (2019). Integral Fractionation of Rice Husks into Bioactive Arabinoxylans, Cellulose Nanocrystals, and Silica Particles. *ACS Sustainable Chemistry & Engineering*, 7(6), 6275-6286.
- Rudjito, R. C., *et al.* (2019). Feruloylated Arabinoxylans from Wheat Bran: Optimization of Extraction Process and Validation at Pilot Scale. *ACS Sustainable Chemistry & Engineering*, 7(15), 13167-13177.
- Yilmaz-Turan, S., Jiménez-Quero, A., Moriana, R., Arte, E., Katina, K., & Vilaplana, F. (2020). Cascade extraction of proteins and feruloylated arabinoxylans from wheat bran. *Food Chemistry*, 333, 127491.



### **Collaborations:**

FungusChain, Horizon 2020 BBI JU project (720720), collaboration between academia and companies: Corbion and BioDetection Systems BV (The Netherlands); Monaghan Mushrooms Group (Ireland); AITIIP, Condensia Química and University of Alicante (Spain); Biozoon GmbH and TECNARO GmbH (Germany); European Centre for Nanostructured Polymers and Novamont (Italy); Saponia and Mi-PLAST (Croatia), Biotrend (Portugal).

Biobased Multifunctional Materials and Additives from Cereal Byproducts, Formas Swedish foundation, collaboration with Chalmers Industrial Biotechnology, Lantmännen (Sweden) and Novozymes (Denmark).

### **Facilities:**

- Biomass extraction and fractionation of valuable compounds (metabolites, proteins, polysaccharides) using green processes (biocatalysis and hydrothermal methods).
- Analytical Chemistry: bioactive activity assays, chromatography (HPLC, GC-MS, HPEAC-PAD, LC- MS/MS)
- Microbiology and molecular biology: culture, fermentation, gene analysis (PCR, qPCR), proteomics.
- Material properties: optical, thermal, tensile and barrier properties.

