Farm2Fork – Organization

[1] e-LAB of Multidisciplinary Science and Technology Abreast (BE) => ProbioLab
[2] University of Liege – Gembloux Agro-Bio Tech (BE)

- **TOPIC :**

  CHARACTERIZATION AND FOOD & NON-FOOD APPLICATIONS OF **PREBIOTICS – PROBIOTICS – POSTBIOTICS**

  - Science and Technology abreast (*scientific literature, patents, new products, …)*
  - Laboratory of Physical Chemistry for Biological & Food materials and Synergy Research
    - ☞ Prebiotics and Probiotics containing products (*mono- and multistrains*)
    - ☞ Postbiotics (*e.g. EPS, lipopeptides, etc*.)

- **TEAM :**

  - Head of Lab (PhD), 1 Research assistant & 1 Clinical data manager (MSc), 1 Scientist outside of EU (PhD)

    [https://www.researchgate.net/lab/Hary-Razafindralambo-Lab]

- **COLLABORATORS :**

  - Universities, Labs & Research Centers (EU and non EU)
  - Companies (EU)

TECHNICAL EXPERTISES & METHODOLOGY USED

POWDERS & GELS

Calorimetric methods [1,2]

- Thermal degradation & stability
- Phase transition

Particle and surface analyses [3]

- Size and morphologie
- Wettability

DISPERSIONS

Optical techniques [4]

- Turbidimetry
- Dynamic and electrophoretic light scattering
- Microscopy (Optical, SEM)

Synergy research tools [5]

- Mathematical models (additivity rules, β parameters)

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[1] Razafindralambo, H. et *al.* (2019). Thermophysical Fingerprinting of Probiotic-Based Products. *Scientific Reports*, 9(10011), 1-8.

[2] Razafindralambo, H. et *al.*(2020). Variability in Probiotic Formulations Revealed by Proteomics and Physico-chemistry Approach in Relation to the Gut Permeability. *Probiotics and Antimicrobial Proteins*, 12, 1193-1202.

[3] Ali, M., Razafindralambo, H**.** et *al*. (2020). Bulk and Surface Wettability Characteristics of Probiotic Powders in Their Compressed Disc and Packed-Bed Column Forms. *ACS Omega*, 5, 22348-22355.

[4] Razafindralambo, H. et *al.* (2019). Physico-chemical Approaches for Characterizing Probiotics at the liquid and Solid States. *Food Research International*, 116, 897-904.

[5] Razafindralambo, H. (2020). From Fundamental Properties to Applications of Surface Activity Investigations: The Kinetic and Thermodynamic Aspects. *Current Physical Chemistry*, 10(1), 3-9.

TOPICS OF INTEREST

- **HORIZON-CL6-2021-FARM2FORK-01-18: One health approach for Food Nutrition Security and Sustainable Agriculture (FNSSA)**

  - Collaboration with laboratories from 3 african countries, working on food safety and preservation by using probiotic-based fermentation techniques

    Kouhoundé et al. (2018). Probiotics: a sustainable option for food safety and preservation in Africa. Chap.6 in Trends in Probiotic Applications, Ed. H. Razafindralambo, Studium Press LLC (Houston, TX, 209p.)

  - Quality and safety control of probiotic-based fermented foods

    Razafindralambo H. (2021). Rapid test for controlling the quality and integrity of probiotic-based products. RME 2021, 1-3 February

  - Use of food nutrition, microbiota diversity score and probiotic imbalance relationship data for better health

    Razafindralambo, A., & Razafindralambo, H. (2019). Gut Microbiota Profile Autism Spectrum Disorder Relationship: Diversity and Imbalance in Probiotics. Journal of Probiotics & Health, 7(1), 1-4.