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| Searching for a Coordinator/Partner for | **The Green Deal – Farm to Fork** |
| Topic | **LC-GD-6-1-2020:**  **Testing and demonstrating systemic innovations in support of the Farm-to-Fork Strategy** |
| Subtopic | **Subtopic C. Reducing the dependence on hazardous pesticides; reducing the use and increasing the efficiency of fertilisers; reducing the losses of nutrients from fertilisers, towards zero pollution of water, soil and air.**  **Subtopic D.         Reducing the dependence on the use of antimicrobials in animal production and in aquaculture.** |
| Organisation Details | School of Mechanical Engineering,  Dublin City University  Ireland |
| How we can contribute to this topic | We can support distributed sensing which can be used to provide information to reduce pesticide use etc. We can also develop platforms for early diagnosis of animal disease to reduce the need for antimicrobials etc.  We have expertise in automating a wide range of laboratory protocols on centrifugal microfluidic ‘Lab-on-a-Disc’ platforms. We have used this platform to automate a wide range of diagnostic assays including ELISA (chemiluminescent, colorimetric, fluorescent), nucleic acid amplification techniques such as PCR, LAMP, NASBA etc, and water analysis such ass nitrite and nitrate detection. The Lab-on-a-Disc allows easy translation of complex laboratory protocols to a portable microfluidic device suitable for use in the field. The ability to centrifuge samples allows us to work with complex media. In particular, we have automated full sold-phase purification and detection of bacteria (CMM) from tomato-leaf using LAMP amplification. |
| Other information | Automated detection of plant-pathogens on tomato leaf, using LAMP, published here with journal/article publication pending.  Kinahan, D. J., Julius, L. A., Schoen, C., Dreo, T., & Ducrée, J. (2018, January). Automated DNA purification and multiplexed lamp assay preparation on a centrifugal microfluidic “Lab-on-a-Disc” platform. In *2018 IEEE Micro Electro Mechanical Systems (MEMS)* (pp. 1134-1137). IEEE. |
| Previous Horizon 2020 projects | FP7 – DECATHLON - Development of Cost efficient Advanced DNA-based methods for specific Traceability issues and High Level On-site applicatioNs |
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