

**OUR  
FOOD  
IS OUR  
FUTURE**

ASSET 2018



**BELFAST  
SUMMIT ON  
GLOBAL FOOD  
INTEGRITY**

WATERFRONT HALL 28TH-31ST MAY

**ENSURING THE INTEGRITY OF THE WORLD'S FOOD SUPPLY  
BELFAST, NORTHERN IRELAND**

# Techniques to quantify the risk - Lead by MultiCoop Project


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- Risk = Exposure x Bioactivity (Effect of substance x Response of organism)
  - Toxic x Protective (bioactive) substances
  - Mixtures of good and bad = complex view
  - Dose-response – often non-linear
  - Real exposure = uptake from intestine and role of microflora
  - Individual sensitivity (age, sex, genetic background)
  - Big data issue = storing, mining and sharing



## Techniques to quantify the risk (Multicoop)

- **Analytical techniques:**

- Contaminants (exposure) x Biomarkers (the effect on organism)

- **Known** = targeted analysis (multiple analytes, matrix independence)

- Developing world issue = cheap but reliable methods

- Scienion = Point of care kits, dry chemistry

- **Unknown and Emerging** = non-targeted screening + OMICS

- Fingerprinting x Profiling (DART-HRMS)