



**ISM Workshop-Training Course**



# **Detection Techniques for Mycotoxins in the food/feed chain**

**October 6-10, 2014**

Institute of Sciences of Food Production (ISPA),  
CNR - National Research Council of Italy, Bari

## **Organized by:**

Michelangelo Pascale & Vincenzo Lippolis  
ISPA - CNR, Bari, Italy

## **Instructors/Lecturers**

Dr. Giuseppina Avantaggiato (ISPA-CNR, Italy)  
Dr. Ursula Dahmen-Levison (aokin AG, Germany)  
Prof. Dr. Rudolf Krska (IFA-Tulln, Austria)  
Dr. Veronica M.T. Lattanzio (ISPA-CNR, Italy)  
Dr. Vincenzo. Lippolis (ISPA-CNR, Italy)  
Dr. Antonio F. Logrieco (ISPA-CNR, Italy)  
Ing. Claire V. Marchitti (R-Biopharm Italia, Italy)  
Dr. Michelangelo Pascale (ISPA-CNR, Italy)  
Dr. Gordon. S. Shephard (PROMEC-MRC, South Africa)  
Dr. Michele Solfrizzo (ISPA-CNR, Bari, Italy)  
Dr. Joerge Stroka (JRC-IRMM, Belgium)  
Ir. Hans P. van Egmond (RIKILT, The Netherlands)  
Dr. Angelo Visconti (ISPA-CNR, Italy)  
Ms. Nancy Zabe (VICAM, a Waters Business, USA)

# PROGRAMME

## MONDAY, 6<sup>th</sup> October

- 8:45 Welcome address - *Antonio F. Logrieco*
- 9:00 Introduction to the course - *Michelangelo Pascale*
- 9:15 Overview of toxigenic fungi and relevant mycotoxins in the food/feed chain - *Antonio F. Logrieco*
- 10:00 Human and animal health effects, risk assessment and mycotoxin legislation – *Hans P. van Egmond*
- 10:45 Prevention strategies and HACCP plans for mycotoxins in food safety - *Gordon S. Shephard*
- 11:30 Coffee break and group photograph**
- 12:00 Sampling methods for mycotoxin analysis - *Angelo Visconti*
- 12:30 Mycotoxin analysis: an overview of various methodologies - *Rudolf Krska*
- 13:30 Lunch**
- 15:00 Protocol for deoxynivalenol analysis in wheat by HPLC/UHPLC and /IAC clean up - *Michelangelo Pascale*
- 15:15 **Laboratory:** Deoxynivalenol in wheat: extraction, clean up, HPLC/UHPLC determination - *Michelangelo Pascale, Vincenzo Lippolis*
- Coffee break (20 min)**

## TUESDAY, 7<sup>th</sup> October

- 9:00 Performance characteristics and validation of analytical methods for mycotoxins – *Joerg Stroka*
- 10:00 Biomarkers of exposure to mycotoxins and relevant analytical methods - *Michele Solfrizzo*
- 10:45 Coffee break**
- 11:15 Protocol for aflatoxin analysis in almonds by HPLC/IAC clean up - *Michele Solfrizzo*
- 11:30 **Laboratory:** Aflatoxins in almonds - sample preparation, extraction, clean up, HPLC/FLD determination - *Michele Solfrizzo, Gordon S. Shephard*
- 13:30 Lunch**
- 15:00 **Laboratory:** Aflatoxins in almonds - sample preparation, extraction, clean up, HPLC/FLD determination - *Michele Solfrizzo, Gordon S. Shephard*
- Coffee break (20 min)**

## WEDNESDAY, 8<sup>th</sup> October

- 9:00 LC-MS/MS for multi-mycotoxin analysis - *Veronica M.T. Lattanzio*
- 9:45 Protocol for multi-mycotoxin analysis by LC-MS/MS - *Veronica M.T. Lattanzio*
- 10:00 **Laboratory:** Multi-mycotoxin analysis in maize - extraction, clean-up, LC-MS/MS determination - *Veronica M.T. Lattanzio, Gordon S. Shephard*
- Interpretation and integration of HPLC/UHPLC chromatograms of deoxynivalenol analysis - *Vincenzo Lippolis, Michelangelo Pascale*
- Coffee break (20 min)**
- 13:30 Lunch**
- 15:00 **Laboratory:** Multi-mycotoxin analysis in maize - extraction, clean-up, LC-MS/MS determination - *Veronica M.T. Lattanzio*
- Interpretation and integration of LC-MS/MS chromatograms of multi-mycotoxin analysis - *Veronica M.T. Lattanzio*
- Coffee break (20 min)**

## THURSDAY, 9<sup>th</sup> October

- 9:00 Mycotoxin decontamination in the food and feed chains - *Giuseppina Avantaggiato*
- 9:45 Rapid methods for mycotoxin detection - *Vincenzo Lippolis*
- 10:30 Coffee break**
- 11:00 Protocol for deoxynivalenol analysis in wheat by kinetic FP assay - *Ursula Dahmen-Levison*
- 11:15 **Laboratory:** Deoxynivalenol in wheat by kinetic FP assay - *Ursula Dahmen-Levison, Vincenzo Lippolis*
- 13:30 Lunch**
- 15:00 Protocol for deoxynivalenol analysis in wheat by fast-ELISA - *Claire V. Marchitti*
- 15:15 **Laboratory:** Deoxynivalenol in wheat by fast-ELISA - *Claire V. Marchitti, Michelangelo Pascale*
- Coffee break (20 min)**
- 20:30 Workshop Dinner**

## **FRIDAY, 10<sup>th</sup> October**

9:00	Protocol for rapid immunoassay methods for mycotoxin detection: strip test and fluorometric test for total aflatoxins in maize - <i>Nancy Zabe</i>
9:15	<b>Laboratory</b> - Rapid immunoassay methods for mycotoxin detection: strip test and fluorometric test for total aflatoxins in maize - <i>Nancy Zabe, Vincenzo Lippolis</i> <b>Coffee break</b> (30 min)
11:30	Poster presentation by participants ( <i>5 minutes each</i> )
<b>13:30</b>	<b>Lunch</b>
15:00	Evaluation of overall results - <i>Michelangelo Pascale</i>
15:30	Questionnaire to participants for course evaluation and general discussion Concluding remarks