



***ISM-MYCORED***  
***Workshop-Training Course***  
***Detection techniques for mycotoxins in the food chain***

**May 28 – June 1, 2012**  
Institute of Sciences of Food Production (ISPA)  
CNR - National Research Council of Italy, Bari

**Organized by: Angelo Visconti & Michelangelo Pascale**  
ISPA - CNR, Bari, Italy

### **Instructors**

**Veronica M.T. Lattanzio (VML)** Italy - **Vincenzo Lippolis (VL)** Italy - **Antonio F. Logrieco (AL)** Italy - **Chris M. Maragos (CM)** USA - **Claire V. Marchitti (CVM)** Italy - **Michelangelo Pascale (MP)** Italy - **Gordon S. Shephard (GS)** South Africa - **Michele Solfrizzo (MS)** Italy - **Hans van Egmond (HvE)** the Netherlands - **Angelo Visconti (AV)** Italy - **Nancy Zabe (NZ)** USA

### **Topics**

- **Lectures:**
  - mycotoxins/toxigenic fungi: occurrence, risks and regulation
  - overviews of major methods for mycotoxin detection
- **Laboratory:**
  - chemical analysis of major mycotoxins by HPLC
  - multi-mycotoxin analysis by LC-MS/MS
  - rapid techniques for mycotoxin detection (ELISA, FPIA, LFD, fluorometric tests)

Web-site for registration: <http://www.mycotox-society.org/MycoRedTraining-2012>

## PROGRAMME

### **MONDAY, 28<sup>th</sup> May**

8:30 - 8:45	Welcome address and presentation of the MycoRed project (AV, AL)
8:45 - 9:00	Introduction to the course (MP)
9:00 - 9:45	Overview on major toxigenic fungi and relevant mycotoxins in the food chain (AL)
9:45 - 10:30	Human and animal health effects, risk assessment and mycotoxin legislation (HVE)
10:30 - 11:00	Prevention strategies and HACCP plans for mycotoxins in food safety (GS)
<b>11:00 - 11:30</b>	<b>Coffee break</b>
11:30 - 12:00	Sampling methods for mycotoxin analysis (GS)
12:00 - 13:00	Mycotoxin analysis: an overview of various methodologies (AV)
<b>13:00 - 14:30</b>	<b>Lunch</b>
14:30 - 14:45	Protocol for deoxynivalenol analysis in wheat by HPLC/IAC clean up (MP)
14:45 - 18:30	<i>Laboratory:</i> Deoxynivalenol in wheat by HPLC/IAC clean up (MP, VL)

### **TUESDAY, 29<sup>th</sup> May**

9:00 - 10:00	Performance criteria for the acceptance of analytical methods for mycotoxins (MS)
10:00 - 10:30	Protocol for aflatoxin analysis in pistachios by HPLC/IAC clean up (MS)
<b>10:30 - 11:00</b>	<b>Coffee break</b>
11:00 - 13:00	<i>Laboratory:</i> Aflatoxins in pistachios - sample preparation, extraction, clean up and HPLC determination (MS, GS)
<b>13:00 - 14:30</b>	<b>Lunch</b>
14:30 - 18:30	<i>Laboratory:</i> Aflatoxins in pistachios - sample preparation, extraction, clean up and HPLC determination (MS, GS)

### **WEDNESDAY, 30<sup>th</sup> May**

9:00 - 9:45	LC-MS/MS for multi-mycotoxin analysis (VML)
9:45 - 10:00	Protocol for multi-mycotoxin analysis by LC-MS/MS (VLM)
10:00 - 13:00	<i>Laboratory:</i> Multi-mycotoxin analysis in maize - extraction, clean-up, LC-MS/MS determination (VML, MS)
	<b>Coffee break (30 min)</b>
	Interpretation and integration of HPLC chromatograms of deoxynivalenol analysis

- 13:00 - 14:30** *Lunch*
- 14:30 - 18:30 *Laboratory:* Multi-mycotoxin analysis in maize - extraction, clean up, LC-MS/MS determination (VML, MS)
- Interpretation and integration of LC-MS/MS chromatograms of multi-mycotoxin analysis

<b>THURSDAY, 31<sup>th</sup> May</b>
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- 9:00 - 10:00 Rapid methods for mycotoxin detection (CM)
- 10:00 - 10:15 Protocol for deoxynivalenol in wheat by Fluorescence Polarization Immunoassay (VL)
- 10:15 - 13:30 *Laboratory:* Deoxynivalenol in wheat by Fluorescence Polarization Immunoassay (CM, VL)
- Coffee break (30 min)*
- 13:30 - 15:00** *Lunch*
- 15:00 - 15:15 Protocol for deoxynivalenol analysis in wheat by fast-ELISA (CVM)
- 15:15 - 18:00 *Laboratory:* Deoxynivalenol in wheat by fast-ELISA (CVM, VL)
- 19:30** *Workshop Party*

<b>FRIDAY, 1<sup>th</sup> June</b>
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- 9:00 - 9:15 Protocol for rapid immunoassay methods for mycotoxin detection: strip test and fluorometric test for total aflatoxins in maize(NZ)
- 9:15 - 9:30 Protocol of determination of *Fusarium* toxins in maize by multiplex dipsticks immunoassay (VML)
- 9:30 - 11:15 *Laboratory:* Rapid immunoassay methods for mycotoxin detection: strip test and fluorometric test for total aflatoxins in maize (NZ, MP)
- 11:15 - 11:45** *Coffee break*
- 11:45 - 13:30 *Laboratory:* *Fusarium* toxins in maize by multiplex dipsticks immunoassay (VML, VL)
- 13:30 - 15:00** *Lunch*
- 15:00 - 15:30 Evaluation of overall results with method performance criteria (MS)
- 15:30 - 16:30 Questionnaire to participants for course evaluation and general discussion.  
Concluding remarks