

## Curriculum Vitae et Studiorum of ANNALISA DE GIROLAMO

<i>Date and place of birth</i>	August 28, 1971, Bari (Italy)
<i>Educational background</i>	Graduated with full marks in 1997 in Biology at the University of Bari, Italy
<i>Institutional affiliations</i>	Institute of Sciences of Food Production (ISPA), National Research Council of Italy (CNR), formerly Institute of Toxins and Mycotoxins from Plant Parasites (ITEM), CNR
1998-2001	CNR-ISPA Research Fellowship
2001-present	Researcher (permanent position)

### Education and Training

2000. Qualification to the Biologist profession from University of Bari, Italy

2000 (1 month). Award of an European fellowship at the "State Institute for Quality Control of Agricultural Products (RIKILT) Department of Food Safety and Health" in Wageningen (The Netherlands), within the project "Concerted Action Contract N° FAIR-98-4094, Mycotochain". Gained experience on methods used for the assessment of consumer exposure to mycotoxins.

2005 (1 month). CNR/CONICET fellowship at the Universidad Nacional de Rio Cuarto, (Rio Cuarto, Cordoba, Argentina) within the bilateral project for scientific cooperation between CNR (Italy) and CONICET (Argentina). Gained experience on biomarkers of mycotoxin exposure.

2007 (1 month). Award of a CNR short-mobility fellowship at the Department of Animal Feed, National Veterinary Institute (Uppsala, Sweden). Research activity: "Near infrared (NIR) spectroscopy for the detection of fungal infection and mycotoxins in feeds". Gained experience on multivariate statistical analysis to develop NIR spectroscopic methods.

2009 (1 month). Canadian/CNR fellowship at Carleton University (Ottawa, Canada). Gained experience on the use of the SELEX (Systematic Evolution of Ligands by EXponential Enrichment) procedure for the *in-vitro* selection of DNA synthetic mediators (aptamers) specific for mycotoxins.

### Skills and competences

Knowledge of spectroscopic techniques (UV, FT-IR, FL), analytical and preparative chromatographic techniques (TLC, GC, HPLC), Molecularly Imprinted Polymers (MIP), Systematic Evolution of Ligands by EXponential Enrichment (SELEX).

Specific experience on several aspects of mycotoxin field:

- development, optimization and validation of traditional and innovative and rapid analytical methods for determining mycotoxins in food, feed and biological fluid;
- multivariate statistical analysis;
- organization of collaborative studies for validation of methods for the analysis of mycotoxins and relative statistical treatment of data according to AOAC/IUPAC guidelines;
- organization of proficiency testing and relative statistical treatment of data according to ISO/IUPAC guidelines.
- fate of mycotoxins during food processing;
- synthesis of synthetic mediators for mycotoxins (aptamers, molecularly imprinted polymers);
- strategies for decontaminating and detoxifying foods from mycotoxins;
- identification in biological fluids (blood, urine) of biomarkers for a more correct evaluation of human and animal exposure to mycotoxins.
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### Main research projects

2016-2020: Horizon 2020 EU Project: "Integrated and innovative key actions for mycotoxin management in the food and feed chain (MycoKey) (*participant*).

2014-2018: NEN (Nederlands Normalisatie-instituut) project "Multimethod for determination of zearalenone and trichothecenes at least including deoxynivalenol (DON) and its acetylated derivatives (3-acetyl-DON and 15-acetyl-DON), nivalenol and T2 and HT-2 in cereals and cereal products by LC-MS/MS" (*supporting leader*).

2013-2015: National Project “New enabling technologies for food safety and food chain integrity within a global scenario” - SAFE&SMART (*participant*).

2011-2015: MIUR project “New Strategies for Improvement of Food safety: Prevention, Control, Correction” - S.I.Mi.S.A. (*participant*). Within this project she has organised a proficiency test (PT) involving more than 20 laboratories for simultaneous determination of the legislated mycotoxins in corn and wheat by using LC-MS(MS) methodology.

2011-2015: MIUR project “Process and product innovations aimed at increasing food safety and at diversifying pork-based products” – SAFEMEAT (*participant*).

2010-2013: National Project “AGER - From Seed to Pasta” (*participant*).

2009-2013: 7<sup>th</sup> FP EU Project “Design and development of realistic food models with well characterised micro- and macro-structure and composition” – DREAM (*participant*)

2009-2013: 7<sup>th</sup> FP EU Project (Large Collaborative Project): “Novel integrated strategies for worldwide mycotoxin reduction in food and feed chains” – MYCORED (*participant*).

2007-2012: 6<sup>th</sup> FP EU Project “Monitoring and Quality Assurance in the Food Supply Chain” – MoniQA (*participant*). Within this project she has organised a proficiency test (PT) involving more than 40 laboratories for simultaneous determination of the legislated mycotoxins in corn by using LC-MS(MS) methodology.

2007-2009: NEN (Nederlands Normalisatie-instituut) project “Determination of fumonisins B<sub>1</sub> and B<sub>2</sub> in maize based foods for infants and young children” (*participant*). Within this project she developed an analytical method for the determination of fumonisins in corn based baby food products. The method was validated in an international collaborative study. The method has been adopted by CEN as a Standard method (*EN 16187:2015*).

## Other

Member representing of Directive Committee of ISPA-CNR (from 2009 to 2016).

Member of International Society for Mycotoxicology (ISM).

Co-Guest editor of the Special Issue of the journal *Biosensors* entitled "Spectroscopy-Based Biosensors".

Member of the Editorial Board of “*Journal of Chemistry*” (ISI Journal).

Evaluator of MIUR research projects.

Member of scientific committees at CNR competitions.

Supervisor of PhD thesis on Food Safety.

Tutor of degree thesis in Analytical Chemistry.

Teacher at post-graduate masters.

Referee for several International Scientific Journals.

Training Laboratory Assistant in several international courses.

## Publications

Papers in Journal Citation Reports (JCR): **45**

Paper in National/International journals: **9**

Reports: **3** (*Ed. European Commission*)

Books chapter: **2**

Proceedings of National/International Conferences: **14**

Participation in Conferences/Symposiums: **96**

## Publications of last five years (max. 10)

1. **De Girolamo A.**, Cervellieri S., Cortese M., Porricelli A., Pascale M., Longobardi F., von-Holst C., Ciaccheri L., Lippolis V. (2019) Fourier transform near-infrared and mid-infrared spectroscopy as efficient tools for rapid screening of deoxynivalenol contamination in wheat bran. *Journal of the Science of Food and Agriculture*, 99, 1946-1953. *First name and corresponding author*.
2. **De Girolamo A.**, von Holst C., Cortese M., Cervellieri S., Pascale M., Longobardi F., Catucci L., Lippolis V. (2019). Rapid screening of ochratoxin A in wheat by Infrared Spectroscopy. *Food Chemistry*, 282, 95-100. *First name and corresponding author*.

3. Innamorato V., Longobardi F., Lippolis V., Cortese M., Logrieco A.F., Catucci L., Agostiano A., **De Girolamo A.** (2019). Tracing the Geographical Origin of Lentils (*Lens culinaris* Medik.) by Infrared Spectroscopy and Chemometrics. *Food Analytical Methods*, 12, 773-779. *Last name.*
4. **De Girolamo A.**, McKeague M., Pascale M., Cortese M., DeRosa M.C. (2019) "Aptamers for Analytical Applications: Affinity Optimization and Method Design". *Chapter V* "Immobilization of aptamers on substrates" (Ed. Wiley-VCH Verlag GmbH, 2019) ISBN 352-73-4267-2. Invited chapter by the editor Prof Yiyang Dong, Food Safety & Risk Assessment Laboratory of Beijing University of Chemical Technology (BUCT), Pechino, China. *First name and corresponding author.*
5. Lippolis V., Cervellieri S., Damascelli A., Pascale M., Di Gioia A., Longobardi F., **De Girolamo A** (2018) Rapid prediction of deoxynivalenol contamination in wheat bran by MOS-based electronic nose and characterization of the relevant pattern of volatile compounds. *Journal of the Science of Food and Agriculture*, 2018, 98, 4955-4962. *Last name.*
6. **De Girolamo A.**, Ciasca B., Stroka J., Bratinova S., Pascale M., Visconti A., Lattanzio V.M.T (2017). Performance evaluation of LC-MS/MS methods for multi-mycotoxin determination in maize and wheat by means of international Proficiency Testing. *TrAC -Trends in Analytical Chemistry*, 86, 222-234. *Epub November 17 2016. First name and corresponding author.*
7. Valenzano S., **De Girolamo A.**, DeRosa M.C., McKeague M., Schena R., Catucci L., Pascale M (2016). Screening and identification of DNA aptamers to tyramine using in vitro selection and high-throughput sequencing. *ACS Combinatorial Science* 18, 302-313. *Corresponding author*
8. **De Girolamo A.**, Lattanzio M., Schena R., Visconti A., Pascale M. (2016) Effect of alkaline cooking of maize on the content of fumonisins B<sub>1</sub> and B<sub>2</sub> and their hydrolysed forms. *Food Chemistry*, 192, 1083-1089. *First name and corresponding author.*
9. McKeague M, **De Girolamo A**, Valenzano S, Pascale M, Ruscito A, Velu R, Frost NR, Hill K, Smith M, McConnell EM, DeRosa MC. (2015). Comprehensive Analytical Comparison of Strategies Used for Small Molecule Aptamer Evaluation. *Analytical Chemistry*, 87, 8608-8612.
10. **De Girolamo A**, Cervellieri S, Visconti A, Pascale M. (2014). Rapid Analysis of Deoxynivalenol in Durum Wheat by FT-NIR Spectroscopy. Special Issue "Recent advances and perspectives in deoxynivalenol research" *Toxins (Basel)*. 6, 3129-3143. *Invited paper. Open-access article. First name and corresponding author.*

Bari, May 20, 2019

Sincerely,



Dr. Annalisa De Girolamo

Researcher

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