SHORT CURRICULUM VITAE

# ROSA PILOLLI

## PERSONAL INFORMATION


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| Surname, Name | **PILOLLI, ROSA** |
| Address | **CNR ISPA, VIA GIOVANNI AMENDOLA 122/O – 70126, BARI, ITALY** |
| Telephone | **+39 0805929999** |
| E-mail | **rosa.pilolli@ispa.cnr.it** |
| Skype | **rosa.pilolli** |
| ORCID | **HTTPS://ORCID.ORG/0000-0002-6789-1472** |
| Scopus Author ID | **26538158900** |
| Researcher ID | **D-8345-2019** |


## CURRENT POSITION

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| Period | **30/12/2016 to date** |
| Name and address of employer | CNR-ISPA, via Giovanni Amendola 122/O – 70126, Bari, Italy |
| Type of business or sector | Research |
| Occupation or position held | Permanent Researcher in Mass Spectrometry and Innovative Methods laboratories |

## MAIN RESEARCH ACTIVITIES

- Development of extraction and purification methods for chemical contaminants detection in food matrices.
- Development and validation of analytical methods based on low and high-resolution mass spectrometry for the multiple determination of allergens in complex food matrices.
- Development of proteomic strategies based on gel based and gel-free approaches for the identification and characterization of allergenic proteins and gluten profile in food matrices, with advanced bioinformatics tools, customized database and libraries.
- Implementation of in-vitro simulated human gastrointestinal digestion models coupled to LC-HR-MS/MS based identification to investigate protein digestibility.
- In-silico and in-vitro assessment of differential toxicity of gluten-related proteins isolated from different genotypes and implementation of strategies for toxicity reduction and/or elimination.
- Development of optical biosensors based on surface plasmon resonance for the detection of chemical contaminants in food matrices.
- Investigation of proteomic profile modification upon food processing.

## WORK EXPERIENCE

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| **Period** | **03/03/14 - 29/12/2016 (34 months)** |
| Name and address of employer | CNR-ISPA, via Giovanni Amendola 122/O – 70126, Bari, Italy |
| Type of business or sector | Research |
| Occupation or position held | Temporary Researcher (art.23) in Mass Spectrometry and Innovative Methods laboratories |

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| **Period** | **02/07/2012 - 28/02/14 (20 months)** |
| Name and address of employer | CNR-ISPA, via Giovanni Amendola 122/O – 70126, Bari, Italy |
| Type of business or sector | Research |
| Occupation or position held | Post-Doctoral Research Assistant in Innovative Methods and Mass Spectrometry laboratories<br>Supervisor: Dr Linda Monaci |

## EDUCATION

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| **Period** | **January 2009 – December 2011** |
| Date | 13/04/2012 D.R. n. 3243 of 26/06/12, prot.:40888 V/8 |
| Title of qualification awarded | **PhD, Chemical and Molecular Sciences School -XXIV cycle**, curriculum "Chemistry of Innovative Materials", |
| Name and type of organization providing education | Università degli Studi di Bari Aldo Moro, Department of Chemistry |
| Principal subjects | Thesis in Analytical Chemistry (SSD CHIM/01): "Engineered surfaces and nanostructures for biosensing and bioanalytical applications" Supervisor Dr. N. Cioffi, e-mail: nicola.cioffi@uniba.it |

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| **Period** | **04/12/2008** |
| Title of qualification awarded | **State Examination in Chemistry-section A** |
| Name and type of organization providing education | Università degli Studi di Bari Aldo Moro, Department of Chemistry |

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| **Period** | **October 2006-October 2008** |
| Date | 09/10/2008 (a.a. 2007/08) mark: 110/110 cum laude |
| Title of qualification awarded | **2nd level degree - Master in Chemical Sciences e Technologies** (62/S –Chemical Sciences), curriculum Analytical and Physical Chemistry |
| Name and type of organization providing education | Università degli Studi di Bari Aldo Moro, Department of Chemistry |
| Principal subjects | Thesis in Analytical Chemistry (SSD CHIM/01): "Functionalized nanomaterials for advanced bioanalytical applications" Supervisors Dott. N. Cioffi, Prof. P.G. Zambonin, e-mail: nicola.cioffi@uniba.it. |

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| **Period** | **October 2003-October 2006** |
| Date | 12/10/2006 (a.a. 2005/06) mark: 110/110 e lode |
| Title of qualification awarded | **1st level degree - Bachelors in Chemistry** (21 –Chemical Sciences and technologies), curriculum Chemistry of Biological Systems |
| Name and type of organization providing education | Università degli Studi di Bari Aldo Moro, Department of Chemistry |
| Principal subjects | Thesis in Analytical chemistry (SSD CHIM/01): "Analysis by HPLC-ESI-MS,MS/MS of nimesulide and its metabolites in sea water" Supervisor Prof. I. Losito, e-mail: ilario.losito@uniba.it |

## INTERNATIONAL TRAINING

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| **Period** | **July 2009- June 2010** |
| Position Held | Visiting scientist |
| Institution | Department of Chemistry at University of California Irvine-UCI (CA, USA) |
| Supervisor | Professor R.M. Penner |
| Research Activity | Development of virus-based biosensors. |

## AWARDS

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| Date | November 2015 |
| Name | "Lombardy dialogues" award, by Dipartimento di Scienze Bio-Agroalimentari (CNR), Regione lombardia e Unioncamere Lombardia |
| Description | **Best Paper 2014-2015** (second place) in the field "food safety and sustainability" for the research paper "Rapid and label-free detection of egg allergen traces in wines by surface plasmon resonance biosensor" R. PILOLLI, A. Visconti, L. Monaci, Anal. Bioanal. Chem. 2015, 407, 3787. |

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| Date | February 2014 |
| Name | "Sara Diomede" Award (DR n. 2185 of 27/05/2013), by Università degli Studi di Bari "Aldo Moro". |
| Description | **Best PhD thesis in Chemical and Molecular Sciences of 2012** (DR n. 457 of 13/02/2014). |

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| Date | 12-17 September 2010: XXII CONGRESSO NAZIONALE DELLA DIVISIONE DI CHIMICA ANALITICA, Chiostro di Sant'Abbondio, Como, Italy |
| Description | **Student Grant** funded by the Division of Analytical Chemistry of the Italian Chemical Society, |

basing on the research activity and the presented contributions.

**Best Poster** Award funded by Thermo Scientific for the contribution "Development of novel Phage-based platforms for biosensing application" R. PILOLLI, K.C. Donavan, J.A. Arter, N. Cioffi, G.A. Weiss, R.M. Penner.

## MAIN RESEARCH PROJECTS

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| Project type | International project funded by EFSA art.36 grant |
| Title | **ThRAll - Detection and quantification of allergens in foods and minimum eliciting doses in food allergic individuals (GP/EFSA/AFSCO/2017/03)** |
| Role | Task Leader |
| Collaborations | The project partnership formed from five organizations distributed in four different member states (UK, IT, BE and FR), brings together the group led by Mills at the University of Manchester in the UK with a renowned knowledge in food allergy and allergenic proteins with the group from CNR-ISPA led by Dr. Monaci with advanced analytical skills in allergen detection by LC-MS methods Other members of the consortium expert in the field are ILVO and CER in Belgium and INRA in France. Total project cost 752k€. |

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| Project type | National Project funded by MIUR, program Scientific Independence of young Researchers 2014. |
| Title | **"S. Wheat Pro. (RBSI14QQ1W) - Proteomic characterization of Selected durum Wheat cultivars for PROduction of low toxicity-food products towards celiac disease patients",** |
| Role | Principal Investigator |
| Collaborations | The project counts on collaboration with three Institutes of CNR (ISPA, ISA, and IBP) and the University of Bari (DiSSPA and DISAAT departments) for a total funding of 454k€. |

## MAIN SCIENTIFIC COLLABORATION AGREEMENTS

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| Partner name | Perkin Elmer |
| Aim of the collaboration | Evaluation of instrumental performances of QSight 220 triple quadrupole mass spectrometery in the multiple allergen detection |

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| Partner name | Andriani spa, ia Niccolò Copernico s.n. Zona PIP 70024 Gravina in Puglia (Ba), Italy |
| Aim of the collaboration | Charaterization of the zein fraction of corn varieties |

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| Partner name | University of Messina, Department of Chemical, Biological, Pharmaceutical and Environmental Science, Messina, Italy |
| Aim of the collaboration | Proteomic characterization of almond oleosome by conventional and advanced analytical approaches |

## Publications

28 articles in International Scientific Journals (ISI-WoS)
7 Chapters in books
7 Articles in national journal or international not ISI journals
3 invited conference contribution
60 abstracts in international or national congresses
14 h-index

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Bari, 14 April 2020

Signature

## Selected publications of the last 5 years

- **"CRITICAL REVIEW ON PROTEOTYPIC PEPTIDE MARKERS TRACING FOR SIX ALLERGENIC INGREDIENTS IN INCURRED FOODS BY MASS SPECTROMETRY" R. PILOLLI**, C. Nitride, N. Gillard, A.-C. Huet, C. van Poucke, M. de Loose, O. Tranquet, C. Larré, K.A. Patient, H. Bernard, E.N.C. Mills, L. Monaci. **Food Research International**, 2020, 128, 108747 (doi: 10.1016/j.foodres.2019.109747)
- **"A COMPREHENSIVE PEPTIDOMIC APPROACH TO CHARACTERIZE THE PROTEIN PROFILE OF SELECTED DURUM WHEAT GENOTYPES: IMPLICATION FOR COELIAC DISEASE AND WHEAT ALLERGY" R. PILOLLI*(corresponding author)**, A. Gadaleta, L. di Stasio, A. Lamonaca, E. De Angelis, D. Nigro, M. De Angelis, G. Mamone, L. Monaci. **Nutrients,** 2019, 11, 2321 (doi: 10.3390/nu11102321)
- **"MODULATION OF MILK ALLERGENICITY BY BAKING MILK IN FOODS: A PROTEOMIC INVESTIGATION"** S.L. Bavaro, E. De Angelis, S. Barni, **R. PILOLLI,** F. Mori, E.M. Novembre, L. Monaci. **Nutrients**, 2019, 11, 1536; (doi:10.3390/nu11071536).
- **"DETECTION AND QUANTIFICATION OF ALLERGENS IN FOODS AND MINIMUM ELICITING DOSES IN FOOD-ALLERGIC INDIVIDUALS (ThRAII)"** Mills ENC, Adel-Patient K, Bernard H, De Loose M, Gillard N, Huet AC, Larré C, Nitride C, **PILOLLI R**, Tranquet O, Pouke CV, Monaci L. **J AOAC Int.** 2019, 102, 1346-1353. (doi: 10.5740/jaoacint.19-0063).
- **"SCOUTING FOR NATURALLY LOW-TOXICITY WHEAT GENOTYPES BY A MULTIDISCIPLINARY APPROACH" R. PILOLLI*(corresponding author),** A. Gadaleta, G. Mamone, D. Nigro, E. De Angelis, N. Montemurro, L. Monaci. **Scientific Reports** 2019, 9, 1646 (doi: 10.1038/s41598-018-36845-8).
- **"Heat and Pressure Treatments on Almond Protein Stability and Change in Immunoreactivity after Simulated Human Digestion"** E. De Angelis, S.L. Bavaro, G. Forte, **R. PILOLLI,** L. Monaci. **Nutrients** 2018, 10, 167 (doi: 10.3390/nu10111679)
- **"COMPREHENSIVE OVERVIEW AND RECENT ADVANCES IN PROTEOMICS MS BASED METHODS FOR FOOD ALLERGENS ANALYSIS"** L. Monaci, E. De Angelis, N. Montemurro, **R. PILOLLI. Trends in Analytical Chemistry**, 2018, 106, 21-36 (doi: 10.1016/j.trac.2018.06.016).
- **"EFFECTS OF THE VARIETAL DIVERSITY AND THE THERMAL TREATMENT ON THE PROTEIN PROFILE OF PEANUTS AND HAZELNUTS"** E. De Angelis, S.L. Bavaro, L. Monaci, **R. PILOLLI*(corresponding author). Journal of Food Quality** vol. 2018, Article ID 7635957, 10 pages, 2018 (doi: 10.1155/2018/7635957).
- **"IN HOUSE VALIDATION OF A HIGH RESOLUTION MASS SPECTROMETRY ORBITRAP-BASED METHOD FOR MULTIPLE ALLERGEN DETECTION IN A PROCESSED MODEL FOOD" R. PILOLLI**, E. De Angelis, L. Monaci. **Analytical and Bioanalytical Chemistry** 2018, 410,5653-5662 (doi: 10.1007/s00216-018-0927-8,)
- **"INSIGHT INTO THE GASTRO-DUODENAL DIGESTION RESISTANCE OF SOYBEAN PROTEINS AND POTENTIAL IMPLICATIONS FOR RESIDUAL IMMUNOGENICITY"** E. De Angelis, **R. PILOLLI**, S.L. Bavaro, L. Monaci, **Food and Function** 2017, 8, 1599-1610 (doi: 10.1039/c6fo01788f).
- **"DEVELOPMENT OF A MASS SPECTROMETRY IMMUNOASSAY FOR UNAMBIGUOUS DETECTION OF EGG ALLERGEN TRACES IN WINES" R. PILOLLI**, R. Chaudhari, F. Palmisano, L. Monaci, **Analytical and Bioanalytical Chemistry**, 2017, 409, 1581-1589 (doi: 10.1007/s00216-016-0099-3)
- **"STREAMLINING THE ANALYTICAL WORKFLOW FOR MULTIPLEX MS/MS ALLERGEN DETECTION IN PROCESSED FOODS" R. PILOLLI**, E. De Angelis, L. Monaci, **Food Chemistry**, 2017, 221, 1747-1753 (doi: 10.1016/j.foodchem.2016.10.110).
- **"COUPLING SPE ON-LINE PRE-ENRICHMENT WITH HPLC SEPARATION AND MS/MS DETECTION FOR THE SENSITIVE DETECTION OF ALLERGENS IN WINE"** E. De Angelis, **R. PILOLLI,** L. Monaci, **Food Control**, 2017, 73, 814-820 (doi: 10.1016/j.foodcont.2016.09.031, Publisher: Elsevier B.V.).
- **"CHALLENGING THE LIMIT OF DETECTION FOR EGG-ALLERGENS DETECTION IN RED WINES BY SURFACE PLASMON RESONANCE BIOSENSOR" R. PILOLLI*(corresponding author),** L. Monaci*, **Food Analytical Methods**, 2016, 9, 2754–2761 (doi: 10.1007/s12161-016-0464-z).
- **"HIGH RESOLUTION–ORBITRAP™ BASED MASS SPECTROMETRY FOR RAPID DETECTION OF PEANUTS IN NUTS",** L. Monaci, E. De Angelis, S.L. Bavaro, **R. PILOLLI, Food Additives and Contaminants-Part A Chemistry, Analysis, Control, Exposure and Risk Assessment**, 2015, 32, 1607-1616 (doi: 10.1080/19440049.2015.1070235)
- **"RAPID AND LABEL-FREE DETECTION OF EGG ALLERGEN TRACES IN WINES BY SURFACE PLASMON RESONANCE BIOSENSOR" R. PILOLLI*(corresponding author)**, A. Visconti, L. Monaci* **Analytical and Bioanalytical Chemistry**, 2015, 407, 3787-3797 (doi: 10.1007/s00216-015-8607-4,).
- **"ORBITRAP™ MONOSTAGE MS VERSUS HYBRID LINEAR ION TRAP MS: APPLICATION TO MULTI-ALLERGEN SCREENING IN WINE" R. PILOLLI**, E. De Angelis, M. Godula, A. Visconti, L. Monaci, **Journal of Mass Spectrometry**, 2014, 49, 1254-1263 (doi: 10.1002/jms.3453)
- **"MULTI-ALLERGEN DETECTION IN FOOD BY MICRO-HPLC COUPLED TO A DUAL CELL LINEAR ION TRAP MASS SPECTROMETER",** L. Monaci, **R. PILOLLI**, E. De Angelis, M. Godula A. Visconti, **Journal of Chromatography A**, 2014, 1358, 136-144 (doi: 10.1016/j.chroma.2014.06.092).