Soggetto coordinatore	Istituto di Scienze delle Produzioni Alimentari CNR
Titolo del progetto	Monitoring and quality assurance of food - Network of excellence
Acronimo	MONIQA
Descrizione del progetto	New analytical methods are emerging that offer high throughput and easy handling solutions for industry and control authorities. Complementing traditional methods, these new rapid methods allow on-site testing of food quality and safety. However they are not widely established and the short life time of test kits means new cost and efficiency issues as well as different validation procedures. A Working Group on A horizontal WG was established: WG Validation of Qualitative Methods, which is a joint undertaking between IUPAC and MoniQA to perform model studies to generate sufficient statistical data, which can serve as basis for the design of a harmonised protocol on qualitative methods validation. The presence of bacteria, fungi, viruses, parasites and other microorganisms in food products may have health implications for consumers. New rapid and alternative methods for such contaminants are needed throughout the food supply chain.
TA/SG	TA6-SG11
Riferimento Bando	VI Framework Programme - KBBE
Valore del progetto	**€** 416.00,00
Pubblicazioni	TA di riferimento: TA1, TA3, TA4. TA6 TA6 for CBRNE detection (6.1, 6.2, 6.3, 6.4) TA6.4 Tecnologie microfluidiche accoppiate a nanostrutture molecolari per la detezione di biohazard Capability (detection of intentional contamination of food and environment) DNA, sonde specifiche, Real Time PCR Blaiotta G., Fusco V., Ercolini D., Pepe O., Coppola S. Diversity of *Staphylococcus* strains based on partial kat (catalase) gene sequences and designs of a PCR RFLP assay for identification and differentiation of coagulase positive species (*S. aureus, S. delphini, S. hyicus, S. intermedius, S. pseudintermedius*) JOURNAL OF CLINICAL MICROBIOLOGY 2010, 48, 192-201 Fusco Va, Quero G.M., Morea M., Blaiotta G., Visconti A. Rapid and reliable identification of *Staphylococcus aureus* harbouring the enterotoxin gene cluster (*egc*) and quantitative detection in raw milk by

real time PCR. Journal of Food Microbiology, 2011, 144, 528 – 537

LC-MS, chimica analitica

Lattanzio V.M.T., Della Gatta S., Godula M., Visconti A Quantitative analysis of mycotoxins in cereal foods by Collision Cell Fragmentation - High Resolution Mass Spectrometry: performances and comparison with triple stage quadrupole detection. FOOD ADDITIVES AND CONTAMINANTS 2011, 28, 1424-1437

Lattanzio V.M.T., Della Gatta S., Suman M., Visconti A Development and in-house validation of a robust and sensitive solid phase extraction - LC-MS/MS method for the quantitative determination of aflatoxins B1, B2, G1, G2, ochratoxin A, deoxynivalenol, zearalenone, T-2 and HT-2 toxins in cereal based foods. RAPID COMMUNICATIONS IN MASS SPECTROMETRY 2011, 25:1869-1880.

Lattanzio V.M.T., Solfrizzo M., De Girolamo A., Chulze S.N., Torres A.M., Visconti A. LC–MS/MS characterization of the urinary excretion profile of the mycotoxin deoxynivalenol in human and rat . JOURNAL OF CHROMATOGRAPHY B 2011, .: 879, 707- 715

Monaci L., De Angelis E., Visconti A Determination of deoxynivalenol, T-2 and HT-2 toxins in a bread model food by liquid chromatography - high resolution - Orbitrap - Mass Spectrometry equipped with a high-energy collision dissociation cell Journal of Chromatography A, 2011, 1218, 8646-8654.

Solfrizzo M., Gambacorta L., Lattanzio V.M.T., Powers S., Visconti A. Simultaneous LC-MS/MS determination of aflatoxin M1, ochratoxin A, deoxynivalenol, de-epoxydeoxynivalenol, ± and ²-zearalenols and fumonisin B1 in urine as a multi-biomarker method to assess exposure to mycotoxins. ANALYTICAL AND BIOANALYTICAL CHEMISTRY 2011, 401, 2831-2841

Immunoassays, Lateral flow, protein chips, Quantum dots, nanodispositivi

Lippolis V., Pascale M., Valenzano S., Pluchinotta V., Baumgartner S., Krska R., Visconti A. A rapid fluorescence polarization immunoassay for the determination of T-2 and HT-2 toxins in wheat ANALYTICAL AND BIOANALYTICAL CHEMISTRY 2011, 401: 2561- 2571

Cimaglia F., Aliverti A., Chiesa M., Poltronieri P, De Lorenzis E., Santino A., Sechi L.A. Quantum dot nanoparticle-based lateral flow assay for rapid detection of Mycobacterium species using anti- FprA antibodies. Nanotechnology Development, (2012), Vol 2, No 1:e5.

De Girolamo A., McKeague M., Miller J.D., De Rosa M.C., Visconti A. Determination of ochratoxin A in wheat after clean-up through a DNA aptamer-based solid phase extraction column. FOOD CHEMISTRY, 2011,

	127, 1378-1384 Poltronieri P, Cimaglia F, Santino A, De Blasi MD, Krizkova-Kudlikova I, Liu S, Wang Y-U, Wang Y. Protein chips for detection of mite allergens using Kunitz-type protease inhibitors. Biotechnol. J., 2010, vol 5, n. 6, 582 -587. Poltronieri P, Shaoyang Liu,Cimaglia F., Santino A., Wang Y. Characterization of Kunitz-type inhibitor B1 performance using protein chips and AFM. Sensor Actuators B, Chemical, 2012, Available online 2012 doi:10.1016/j.snb.2012.04.013 Ragona M., Mazzocchi M., Zanoli A., Alldrick A.J., Solfrizzo M., van Egmond H.P. Testing a toolbox for impact assessment of food safety regulations: maximum levels for T-2 and HT-2 toxins in the EU. QUALITY ASSURANCE AND SAFETY OF CROPS & FOODS 2011 3, 12-23 Solfrizzo M., De Girolamo A., Gambacorta L., Visconti A., van Egmond H.P., Stroka J. Determination of fumonisins B1 and B2 in corn based foods for infants and young children by LC with Immunoaffinity column clean-up: interlaboratory validation study. JOURNAL OF AOAC INTERNATIONAL 2011, 94, 900-908
Curriculum	