

## **PUBLICACIONES CIENTÍFICAS 2013**

### **GRUPO DE BIOSENSORES ANALÍTICOS (GBA)**

**Fluorometric enzymatic autoindicating biosensor for H2O2 determination based on modified catalase.**

E. Ortega, S. de Marcos, J. Galbán (GBA)  
Biosensors and Bioelectronics, 41, 150-156 (2013)

### **GRUPO DE ESPECTROSCOPIA ANALÍTICA Y SENSORES (GEAS)**

**La cerámica de reflejo dorado: una aproximación técnica a la nanotecnología medieval.**

M. Vendrell, J. Roqué, J. Pérez A., P. Giráldez (GEAS)  
Actas del Congreso Internacional Red Europea de Museos de Arte Islámico. Patronato de la Alhambra y Generalife, Victoria and Albert Museum. Pp. 437-450. ISBN: 9788486827724 (2013)

**La cerámica dorada en el noreste de la Península Ibérica: las taifas de Zaragoza y Albarracín.**

J.M. Ortega, F.J. Gutiérrez, J. Pérez A., C. Déléry (GEAS)  
Actas del Congreso Internacional Red Europea de Museos de Arte Islámico. Patronato de la Alhambra y Generalife, Victoria and Albert Museum. Pp. 219-251. ISBN: 9788486827724 (2013)

**Assessment of metals bound to marine plankton proteins and to dissolved proteins in seawater.**

N. García-Otero, M.C. Barciela-Alonso, A. Moreda-Piñeiro, P. Bermejo-Barrera, M.S. Jiménez, M.T. Gómez-Cotín, J.R. Castillo (GEAS)  
Analytica Chimica Acta, 804, 59-65 (2013)

**Evaluation of gel electrophoresis techniques and laser ablation-inductively coupled plasma-mass spectrometry for screening analysis of Zn and Cu-binding proteins in plankton.**

M.S. Jiménez, L. Rodríguez, J.R. Bertolin, M.T. Gómez, J.R. Castillo (GEAS)  
Analytical and Bioanalytical Chemistry, 405, 1, 359-368 (2013)

**Electrochemical affinity biosensors for detection of mycotoxins: a review.**

J.C. Vidal, L. Bonel, L., A. Ezquerro, S. Hernández, J.R. Bertolin, C. Cubel, J.R. Castillo (GEAS)  
Biosensors & Bioelectronics 49, 146-158 (2013)

**Critical considerations for the determination of nanoparticle number concentrations, size and number size distributions by single particle ICP-MS.**

F. Laborda, J. Jiménez L., E. Bolea, J.R. Castillo (GEAS)  
Journal of Analytical Atomic Spectrometry 28, 8, 1220-1232 (2013)

**Positive and negative-mode laser desorption/ionization-mass spectrometry (LDI-MS) for the detection of indigoids in archaeological purple**

E. Ribechini, J. Pérez-Arantegui, J., M.P. Colombini (GEAS)  
Journal of Mass Spectrometry 48, 3, 384-391 (2013)

**Microcharacterization of a natural blue pigment used in wall paintings during the Romanesque period in Northern Spain.**

J. Pérez-Arantegui, C. Pardos, J.L. Abad, J.R. García (GEAS)  
Microscopy and Microanalysis, 19, 6, 1645-1652 (2013)

**The toxicity of silver nanoparticles depends on their uptake by cells and thus on their surface chemistry.**

E. Caballero-Díaz, C. Pfeiffer, L. Kastl, P. Rivera-Gil, B. Simonet, M. Valcárcel, J. Jiménez-Lamana, F. Laborda, W.J. Parak (GEAS)  
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**Producciones de cerámica Celtibérica procedentes del sistema Ibérico Central (España): Caracterización química y petrográfica.**

J. Igea, J. Pérez-Arantegui, P. Lapuente, M.E. Saiz, F. Burillo (GEAS)  
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**La Química Analítica en el estudio y conservación del Patrimonio.**

J. Pérez-Arantegui (GEAS)  
Sobre el color en el acabado de la arquitectura histórica. P.p. 139-152. C. Gómez Urdáñez. Prensas Universidad de Zaragoza. Zaragoza. ISBN: 978-84-1577-05-03 (2013)

## **GRUPO UNIVERSITARIO DE INVESTIGACIÓN ANALÍTICA (GUIA)**

**The Challenge of Identifying The Non Intentionally Added Substances (NIAS) From Food Packaging Materials. A review.**

C. Nerin, P. Alfaro, M. Aznar, C. Domeño (GUIA)  
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**Identification of non-volatile compounds and their migration from hot melt adhesives used in food packaging materials characterized by ultra-performance liquid chromatography coupled to quadrupole time-of-flight mass spectrometry.**

P. Vera, E. Canellas, C. Nerin (GUIA)  
Analytical and Bioanalytical Chemistry, 405, 14, 4747-4754 (2013)

**Detection by ambient ionization mass spectrometry.**

K. Bentayeb, LK. Ackerman, T. Lord, TH. Begley (GUIA)  
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**Exposure to phthalic acid, phthalate diesters and phthalate monoesters from foodstuffs: UK total diet study results.**

E. Bradley, R. Burden, K. Bentayeb, M. Driffield, N. Harmer, D. Mortimer, D. Speck, D; J. Ticha, L. Castle (GUIA)  
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**Nanoparticle release from nano-silver antimicrobial food containers.**

Y. Echevoyen, C. Nerin (GUIA)  
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**Pattern recognition of peach cultivars (Prunus persica L.) from their volatile components.**

P. Montero-Prado, K. Bentayeb, C. Nerin (GUIA)  
Food Chemistry, 138(1), 724-731 (2013)

**Rapid analytical procedure for determination of mineral oils in edible oil by GC–FID.**

M. Wrona, D. Pezo, C. Nerin (GUIA)  
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**Quantification of polycyclic aromatic hydrocarbons (PAHs) found in gas and particle phases from pyrolytic processes using gas chromatography-mass spectrometry (GC-MS)**

N.E. Sánchez, J. Salafranca, A. Callejas, A. Millera, R. Bilbao, M.U. Alzueta (GUIA)  
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**Effectiveness of a novel insect-repellent food packaging incorporating essential oils against the red flour beetle (*Tribolium castaneum*).**

F. Licciardello, G. Muratore, P. Suma, A. Russo, C. Nerin (GUIA)  
Innovative Food Science and Emerging Technologies, 19, 173–180 (2013)

**Migrants determination and bioaccessibility study of ethyl lauroyl arginate (LAE) from a LAE based antimicrobial food packaging material.**

M. Aznar, J. Gómez-Estaca, D. Vélez, V. Devesa, C. Nerin (GUIA)  
Journal of Food and Chemical Toxicology, 56, 363-370 (2013)

**Migration of non intentionally added substances from adhesives by UPLC-Q-TOF/MS and the role of EVOH to avoid migration in multilayer packaging materials.**

F. Isella, E. Canellas, O. Bosetti, C. Nerin (GUIA)  
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**Three-Phase Hollow-Fiber Liquid-Phase Microextraction Combined with HPLC-UV For The Determination of Isothiazolinone Biocides in Adhesives Used For Food Packaging Materials.**

M. Rosero, E. Canellas, C. Nerin (GUIA)  
Journal of Separation Science, 37, 272-280 (2013)

## **LABORATORIO DE ANÁLISIS DE AROMA Y ENOLOGÍA (LAAE)**

**Application of a new sampling device for determination of volatile compounds released during heating olive and sunflower oil: sensory evaluation of those identified compounds.**

I. Ontañón, L. Culleré, J. Zapata, B. Villanueva, V. Ferreira, A. Escudero (LAAE)  
European Food Research Technology, 236, 6, 1031-1040 (2013)

**Comparison of the aromatic profile of three aromatic varieties of Peruvian pisco (Albilla, Muscat and Torontel) by chemical analysis and gas chromatography-olfactometry.**

J. Cacho, L. Moncayo, J.C. Palma, V. Ferreira, L. Culleré (LAAE)  
Flavour and Fragrance Journal, 28 (5), 340-352 (2013)

**Chemical and sensory effects of the freezing process on the aroma profile of black truffles (*Tuber melanosporum*).**

L. Culleré, V. Ferreira, M.E. Venturini, P. Marco, D. Blanco (LAAE)  
Food Chemistry, 136, 518-525 (2013)

**Potential aromatic compounds as markers to differentiate between *Tuber melanosporum* and *Tuber indicum* truffles.**

L. Culleré, V. Ferreira, M.E. Venturini, P. Marco, D. Blanco (LAAE)  
Food Chemistry, 141, 105-110 (2013)

**Effect of freezing method and frozen storage duration on odor-active compounds and sensory perception of lamb.**

M. Bueno, V.C. Resconi, M.M. Campo, J. Cacho, V. Ferreira, A. Escudero (LAAE)  
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**The impact of the grape variety on the aromatic chemical composition of non aromatic Peruvian pisco.**

J. Cacho, L. Moncayo, J.C. Palma, V. Ferreira, L. Culleré (LAAE)  
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**Volatile composition and sensory properties of North West Spain white wines.**

M. Vilanova, A. Escudero, M. Graña, J. Cacho (LAAE)  
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**Characterización by gas chromatography-olfactometry of the most odor-active compounds in extracts prepared from acacia, chestnut, cherry, ash and oak woods.**

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**The influence of different production processes on the aromatic composition of Peruvian piscos.**

J. Cacho, L. Moncayo, J.C. Palma, V. Ferreira, L. Culleré (LAAE)  
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**Polyphenols, antioxidant potential and color of fortified wines during accelerated ageing: The Madeira wine case study.**

V. Pereira, F. Alburquerque, J. Cacho, J.C. Marqués (LAAE)  
Molecules, 18, 2997-3017 (2013)

**The Development of Aromas in Ruminant Meat.**

V. Resconi, A. Escudero, M.M. Campo (LAAE)  
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**Contribuciones sobre vitivinicultura y enología desde la experiencia y el conocimiento.**

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Algunos apuntes sobre el aroma del vino. Pg 124-141 Capitulo 5  
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## **LABORATORIO LÁSER Y MEDIO AMBIENTE (LASLAB)**

**Quantitative analysis of oxide materials by laser-induced breakdown spectroscopy with argon as an internal standard.**

R.J. Lasheras, C.Bello, J. Anzano (LASLAB)  
Spectrochimica Acta Part B, 82, 65-70 (2013)

**Control de procesos en química sostenible utilizando técnicas globales de comunicación.**

J. Anzano, A. Casanova (LASLAB)  
Acciones de innovación y mejora de los procesos de aprendizaje. Pp. 91-92. J. Paricio y A.I. Allueva. Prensas Universidad de Zaragoza. Zaragoza. ISBN: 978-84-15538-04-02 (2013)

## **GRUPO DE INVESTIGACIÓN EN MÉTODOS DE ANÁLISIS RÁPIDOS (MARTE)**

**Copper and tin isotopic analysis of ancient bronzes for archaeological investigation: development and validation of a suitable analytical methodology.**

E. Balliana, M. Aramendia, M. Resano, C. Barbante, F. Vanhaecke (MARTE)  
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**Potential of solid sampling high-resolution continuum source graphite furnace atomic absorption spectrometry to monitor the Ag body burden in individual Daphnia magna specimens exposed to Ag nanoparticles.**

M. Resano, A.C. Lapena, M.A. Belarra (MARTE)  
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**Cross-Sectional Relationship Between Chronic Stress and Mineral Concentrations in Hair of Elementary School Girls.**

B. Vanaelst, N. Michels, I. Huybrechts, E. Clays, M.R. Florez, L. Balcaen, M. Resano, M. Aramendia, F. Vanhaecke, N. Rivet, J.-S. Raul, A. Lanfer, S. De Henauw (MARTE)  
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**Hair Minerals and Metabolic Health in Belgian Elementary School Girls.**

B. Vanaelst, I. Huybrechts, N. Michels, M.R. Florez, M. Aramendia, L. Balcaen, M. Resano, F. Vanhaecke, K. Bammann, S. Bel-Serrat, S. De Henauw (MARTE)  
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**Accurate determination of S in organic matrices using isotope dilution ICP-MS/MS.**

L. Balcaen, G. Woods, M. Resano, F. Vanhaecke (MARTE)  
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**Direct determination of Cu isotope ratios in dried urine spots by means of fs-LA-MC-ICPMS. Potential to diagnose Wilson's disease .**

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**Isotope ratio mapping by means of laser ablation-single collector-ICP-mass spectrometry: Zn tracer studies in thin sections of Daphnia magna.**

M.R. Florez, M. Aramendia, M. Resano, A.C. Lapena, L. Balcaen, F. Vanhaecke (MARTE)  
Journal of Analytical Atomic Spectrometry, 28, 1005-1015 (2013)

**Simultaneous determination of Co, Fe, Ni and Pb in carbon nanotubes by means of solid sampling high-resolution continuum source graphite furnace atomic absorption spectrometry.**

M. Resano, E. Bolea-Fernandez, E. Mozas, M.R. Florez, P. Grinberg, R.E. Sturgeon (MARTE)  
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**A dried urine spot test to simultaneously monitor Mo and Ti levels using solid sampling high-resolution continuum source graphite furnace atomic absorption spectrometry.**

L. Rello, A.C. Lapena, M. Aramendia, M.A. Belarra, M. Resano (MARTE)  
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**Direct determination of bromine in plastic materials by means of solid sampling high-resolution continuum source graphite furnace molecular absorption spectrometry.**

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**High-resolution continuum source atomic absorption spectrometry for the simultaneous or sequential monitoring of multiple lines. A critical review of current possibilities.**

M. Resano, M.R. Flórez, E. García-Ruiz (MARTE)  
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## OTROS

**Fullerenes: Liquid Chromatography.**

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**Petroleum products. Liquid Chromatography.**

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**Revisiting Molecular Weight Distribution of Polystyrenes Using Adsorption High-Performance Thin-Layer Chromatography.**

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