

XVIII REUNIÓN CIENTÍFICA  
DE LA SOCIEDAD ESPAÑOLA DE CROMATOGRAFÍA  
Y TÉCNICAS AFINES · SECyTA 2018

XVIII SCIENTIFIC MEETING  
OF THE SPANISH SOCIETY OF CHROMATOGRAPHY  
AND RELATED TECHNIQUES · SECyTA 2018

SECyTA 2018



Granada  
[www.secyta2018.es](http://www.secyta2018.es)

2 - 4 Octubre de 2018  
October 2 - 4, 2018

Palacio de Congresos de Granada / Granada Conference Center

Organizador  
Organizer

Colaboradores  
Collaborators



**SECYTA**

SOCIEDAD ESPAÑOLA DE  
CROMATOGRAFÍA  
Y TÉCNICAS AFINES



UNIVERSIDAD  
DE GRANADA



**BOOK OF ABSTRACTS XVIII SCIENTIFIC MEETING OF THE SPANISH SOCIETY OF  
CHROMATOGRAPHY AND RELATED TECNIQUES – SECyTA 2018**

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ISBN: 978-84-17293-61-1

Depósito Legal: GR 203-2018

Edita e Imprime: Godel Impresiones Digitales S.L.

# BIENVENIDA

En nombre del Comité Organizador de la XVIII Reunión de la Sociedad Española de Cromatografía y Técnicas Afines (SECyTA 2018) queremos daros las gracias por vuestra participación y la bienvenida a la ciudad de Granada y a este foro científico que en esta ocasión tiene lugar en el Palacio de Congresos, en pleno centro de nuestra ciudad.

En esta edición, como en reuniones anteriores, se nos brinda la oportunidad de intercambiar conocimientos científicos y tecnológicos en el ámbito de las técnicas analíticas separativas, contemplando los principales avances en la disciplina, nuevas tendencias instrumentales y multitud de aplicaciones en diversos campos. Además, en colaboración con la Sociedad Española de Espectrometría de Masas (SEEM), como actividad previa a la reunión se ha organizado un curso sobre esta técnica, teniendo como sede la Facultad de Ciencias de la Universidad de Granada, colaboradora de la organización de SECyTA 2018.

El programa científico que desarrollaremos en estos días es denso y muy atractivo e incluirá 6 conferencias plenarias impartidas por científicos de prestigio internacional y 180 comunicaciones, estructuradas en 21 comunicaciones orales y 143 pósteres, de los cuales se han seleccionado 12 para su presentación como “pósteres flash”. Estos trabajos se agrupan en sesiones temáticas dedicadas a análisis clínico y farmacéutico, medioambiental, alimentario, avances en preparación de muestra, fundamentos y quimiometría, nuevos desarrollos en instrumentación y técnicas ómicas, entre otras. Es uno de los mayores intereses de SECyTA promover la participación de los jóvenes investigadores en sus reuniones científicas, fomentando su espíritu crítico y animando a sentirse miembros activos de esta comunidad. Por ello el programa contempla dos sesiones en las que los jóvenes impartirán 16 comunicaciones orales y se han concedido becas de inscripción y ayudas de viaje para facilitar su asistencia. En esta ocasión la XVI Reunión del Grupo Andaluz de la Sociedad Española de Química Analítica (GRASEQA 2018), presidida por el Prof. Luis Fermín Capitán, se celebra coordinadamente con nuestro evento, incorporando una sesión común que permitirá el contacto entre los asistentes de ambas reuniones. Igualmente hemos preparado un programa social con el que disfrutaremos juntos de la ciudad, la tradición y la gastronomía de Granada, metrópolis vibrante, multicultural y por excelencia universitaria, destino acogedor con la Alhambra que domina desde su emplazamiento privilegiado.

Queremos desde aquí expresar nuestro agradecimiento a las empresas que han apoyado activamente la reunión de Granada, presentando sus avances en la exposición comercial, aportando sus productos, presentando comunicaciones y en los encuentros con los participantes, manteniendo un compromiso muy importante con nuestra sociedad.

En nombre del Comité Organizador quiero daros una calurosa bienvenida a Granada, agradeciendo sinceramente vuestra participación y deseando que estos días sean muy provechosos y agradables, personal y profesionalmente.

**Ana M. García-Campaña**  
**Presidenta del Comité Organizador**

## **WELCOME**

On behalf of the organizing Committee of the XVIII meeting of the Spanish Society of Chromatography and Related Techniques (SECyTA 2018), we want to thank you for your participation and welcome you to the city of Granada and to this scientific forum that this time takes place at the Conference Center, in the heart of our city.

This conference provides an interactive forum to share scientific and technological knowledge in the field of analytical separation techniques. Fundamental aspects and state of the art of chromatography, capillary electrophoresis and related techniques will be discussed. The scientific program includes 6 plenary lectures given by internationally renowned scientists and 180 communications, structured in 21 oral communications and 143 posters, of which 12 have been selected for presentation as "flash posters". These works are grouped in thematic sessions devoted to clinical and pharmaceutical analysis, environmental, food, advances in sample preparation, fundamentals and chemometrics, new developments in instrumentation and omics techniques, among others. It is one of SECyTA's greatest interests to promote the participation of young researchers in their scientific meetings, fostering their scientific spirit and encouraging them to feel active members of this community. For this reason, the program includes two sessions in which young researchers will present 16 oral communications. Also, registration and travel grants have been offered to them.

On this occasion the XVI meeting of the Andalusian group of the Spanish Society of Analytical Chemistry (GRASEQA 2018), chaired by Prof. Luis Fermín Capitan, is held in coordination with our event, incorporating a common session, allowing the contact among the attendees of both meetings. We have also prepared a social program that will allow us to enjoy together the city, the tradition and the gastronomy. We hope that the participants enjoy Granada, a vibrant, multicultural metropolis with an intense university atmosphere. Besides, the visitor can find one of the most visited monuments of Spain, the Alhambra, a 14th century Muslim palace and an absolute must-see attraction.

We want from here to express our gratitude to the companies that have actively supported this meeting, presenting their advances in the commercial exhibition, offering their products, presenting communications and discussing with the participants, maintaining a very important commitment to our society.

On behalf of the organizing committee I want to give you a warm welcome to Granada, sincerely thanking you for your participation and wishing that these days are very profitable, from both sides personal and professionally.

***Ana M. García-Campaña  
Chair of the Organizing Committee***

## PREVIOUS MEETINGS

President/s	Location	Year
Jordi Mañes	Valencia	2001
Manuel V. Dabrio	Barcelona*	2002
Amadeo R. Fernández-Alba	Aguadulce (Almería)	2003
Coral Barbas	Boadilla del Monte (Madrid)	2004
Juan Cacho	Barcelona*	2005
Ana Gago	Vigo (Pontevedra)	2006
Ana M. García Campaña	Granada	2007
Joan O. Grimalt	Barcelona*	2008
Carmen Dorronsoro	San Sebastián	2009
Yolanda Picó	Valencia	2010
Elena Domínguez	Barcelona*	2011
Rosa María Marcé	Tarragona	2012
Miguel Ángel Rodríguez y Alejandro Cifuentes	Puerto de la Cruz (Santa Cruz de Tenerife)	2013
Maria José González	Barcelona*	2014
Juan V. Sancho y Joaquín Beltran	Castellón de la Plana	2015
José A. González Pérez	Sevilla	2016
Francisco Javier Santos Vicente	Barcelona*	2017

\*Held within the corresponding “Instrumental Analysis Conferences (JAIs)”

## INVITED SPEAKERS



### Prof. Dr. Robert Kennedy

University of Michigan (USA)

<http://kennedygroup.lsa.umich.edu>

**“Pushing the limits of separations: high speed and high pressure”**



### Prof. Dr. Soledad Muniategui Lorenzo

Universidad de A Coruña (UDC) – Instituto Universitario de Medio Ambiente (Spain)

<http://investigacion.udc.es/es/Research/Details/G000343>

**“Current Trends in Sample Treatment for Environmental Analysis”**



### Prof. Dr. Lourdes Ramos

Instituto de Química Orgánica General – CSIC (Spain)

<http://www.iqog.csic.es/personal-www/lourdesramos>

**“Comprehensive two-dimensional gas chromatography-mass spectrometry of complex mixtures: non-orientated studies”**



### Prof. Dr. Serge Rudaz

School of Pharmaceutical Sciences – University of Geneva (Switzerland)

<https://epgl.unige.ch/labs/fanal/analyses-biomedicales>

**New insights into separation techniques for endogenous metabolomic profiling**



### Prof. Dr. Oliver J. Schmitz

University of Duisburg-Essen (Germany)

<https://www.uni-due.de/aac>

**“Thousands of separated signals in a four-dimensional separation approach: How can we manage the data?”**



### Prof. Dr. Antonio Segura Carretero

Universidad de Granada (Spain)

<http://www.ugr.es/~agr274/>

**“Advanced analytical strategies in the field of bioactive ingredients”**

## P-OT-03

**EVALUATION OF MASS SPECTRAL FINGERPRINTS BY SPME FOLLOWED BY MS FOR CHARACTERIZATION OF HONEY BOTANICAL SOURCE**

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<sup>(2)</sup> Instituto de Química Orgánica General (CSIC). Juan de la Cierva 3, 28006 Madrid (Spain)

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Honey aroma, which depends on its volatile composition, is one of its most appreciated properties and a subject of great interest in apiculture, as it often determines honey selection by consumer. The wide number of honeys from different botanical source (unifloral, multifloral and honeydew honeys) marketed nowadays makes difficult their characterization for authentication purposes, or to increase their added value in the case of honeys with protected designation of origin. In this sense, the development of fast, reproducible and non-biased methodologies based on Direct Injection Mass Spectrometry could be an approach worthy of evaluation.

Whereas methodologies based on Solid Phase Microextraction (SPME) followed by/coupled to Gas Chromatography-Mass Spectrometry (GC-MS) have been previously reported for authentication of honey botanical origin [1,2], as far as we know, only a previous reference [3] has addressed the botanical discrimination and classification of honey samples based on mass spectral fingerprints collected by SPME.

In this work, 24 commercial honeys of 5 different botanical sources (citrus, eucalyptus, rosemary, acacia and honeydew honey) were analyzed [1] using two different SPME fiber coatings (Polyacrylate and Carboxen/Polydimethylsiloxane). In a simulation of a non-separative approach, combined mass spectra from GC-MS profiles were used as mass spectral fingerprints for each of the honey samples under analysis. After corresponding data pretreatment (removal of artifacts or background noise signals) and normalization, the set of combined mass spectra previously obtained were subjected to different supervised and unsupervised pattern recognition techniques. The most significant mass to charge ratios ( $m/z$ ) for classification of honey botanical source were determined and compared among the different multivariate statistical analysis techniques here evaluated. Potential markers were identified from selected  $m/z$  ratios and from GC retention data.

As conclusion, mass spectral fingerprints obtained by SPME followed by MS seem to be a promising alternative to conventional GC-MS approaches for authentication of honey botanical source.

- [1] A.C. Soria et al., *J. Sep. Sci.* **26** (2003) 793-801.
- [2] A. Verzera et al., *Food Control* **39** (2014) 237-243.
- [3] K.A. Aliferis et al., *Food Chem.* **121** (2010) 856-862.

**Acknowledgements:** This work has been funded by Comunidad Autónoma of Madrid and European funding from FEDER program (project S2013/ABI-3028, AVANSECAL) and by Ministerio de Economía, Industria y Competitividad (MINEICO) of Spain (project AGL2016-80475-R, AEI/FEDER, UE).

## Empresas colaboradoras



## Collaborating companies



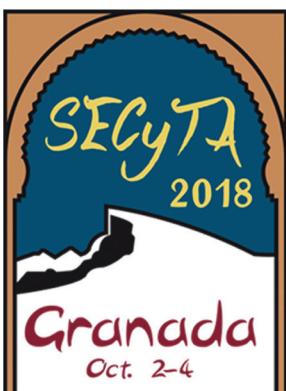
## Empresas participantes



## Otros patrocinadores



Contigo desde tu primer día



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