



10º Encontro Nacional de Cromatografia

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INSTITUTO POLITÉCNICO DE BRAGANÇA Centro de Investigação de Montanha

COM O ALTO PATROCÍNIO DE SUA EXCELÊNCIA



O Presidente da República

Title

10th Chromatography Meeting

Título

10º Encontro de Cromatografia

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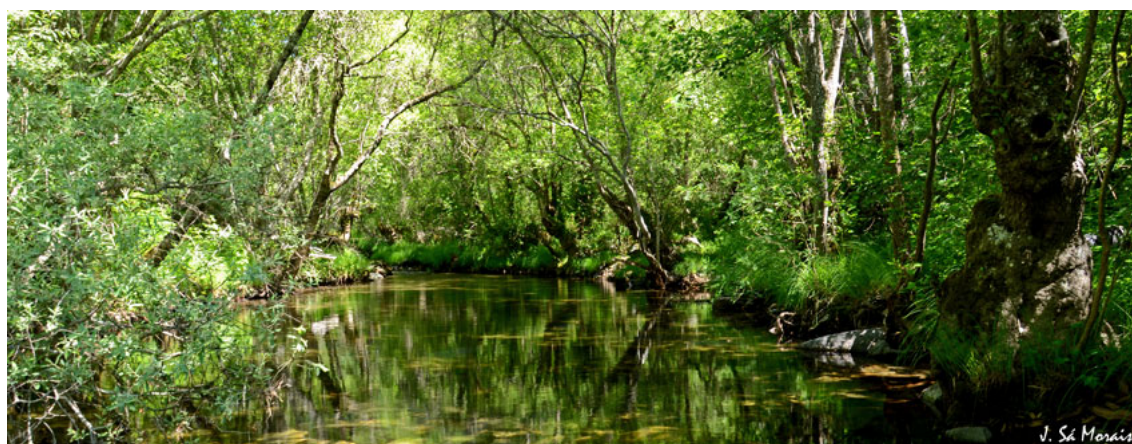
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Sílvia M. Rocha (Universidade de Aveiro)



Program / Programa

Time	December 4	
8:00-9:00		• Registration
9:00-10:00		• Opening session in <i>Auditorium Dionísio Gonçalves</i>
Moderator / Moderador - Auditorium Dionísio Gonçalves Isabel C.F.R. Ferreira (<i>Instituto Politécnico de Bragança</i>)		
10:00-11:00	PL-01	In-tube SPME from open tubular column (in-tube SPME-LC) to directly coupled to mass spectrometry Maria Eugênia Costa Queiroz <i>Universidade de São Paulo, Brasil</i>
11:00-11:30		• Coffee Break and panel session
Moderator / Moderador - Auditorium Dionísio Gonçalves Sílvia M. Rocha (<i>Universidade de Aveiro</i>)		
11:30-12:00	IC-01	Different Strategies Based on Micro(extraction) Followed by GC-MS/MS and LC-MS/MS for the Determination of Personal Care Products in Cosmetics and Environmental Samples Maria Llompart <i>University of Santiago de Compostela, Espanha</i>
12:00-12:30	EC-01	LCMS Technologies: Introducing the Orbitrap for Ultrahigh Resolution Exact Mass and Unequivocal ID Daniel Ettlin <i>Thermo Unicam Sistemas Analíticos</i>
12:30-14:30		• Lunch
Moderator / Moderador - Auditorium Dionísio Gonçalves Nuno Mateus (<i>Universidade do Porto</i>)		
14:30-15:00	IC-02	Back to Basics: Considerations in eco-user-friendly/cost-effective micro-extraction techniques José Nogueira <i>Universidade de Lisboa, Portugal</i>
15:00-16:30	Oral session 1A / Sessão Oral 1A	
	OC-01	A multiresidue targeting approach for pesticide detection in olive oil: the role of dual-layer solid-phase extraction based on molecular imprinting technology Raquel Garcia
	OC-02	New brush-type chiral stationary phases based on xanthone derivatives for liquid chromatography Carla Fernandes
	OC-03	Chromatographic techniques to assess the profile of biomolecules in different mycorrhizal mushroom species Filipa Reis
	OC-04	Multicolumn based liquid chromatography processes for the separation of nadolol racemates António Ribeiro
	OC-05	An expanded bed chromatography approach for improving human mesenchymal stem cells purification Ricardo Silva

OC-06 [Chromatographic analysis of biological samples using monolithic columns](#)
Marcela Segundo

Moderator / Moderador - Auditorium B

Marco Gomes da Silva (Universidade Nova de Lisboa)

15:00-16:30

Oral session 1B / Sessão Oral 1B

- OC-07 [Avaliação da qualidade do ar em espaços de um edifício de ciências](#)
Sara Santos
 Engineered polymer particles for the valorization of phenolic compounds present in mixtures obtained through supercritical extraction
- OC-08 [Engineered polymer particles for the valorization of phenolic compounds present in mixtures obtained through supercritical extraction](#)
Catarina Gomes
- OC-09 [Thermostability studies of oil-soluble cyanidin-3-glucoside dyes](#)
Marta Guimarães
 Adsorption equilibrium and kinetics of CO₂, CH₄ and N₂ on zeolite BETA with different cations and SiO₂/Al₂O₃ ratio
- OC-10 [Adsorption equilibrium and kinetics of CO₂, CH₄ and N₂ on zeolite BETA with different cations and SiO₂/Al₂O₃ ratio](#)
Adriano Henrique
 Seawater degradation studies of gallic acid persulfate, a promising synthetic antifouling agent
- OC-11 [Seawater degradation studies of gallic acid persulfate, a promising synthetic antifouling agent](#)
Cátia Vilas Boas
 BeerOmics: how can advanced gas chromatography help to understand beer aroma properties?
- OC-12 [BeerOmics: how can advanced gas chromatography help to understand beer aroma properties?](#)
Cátia Martins

16:30-17:00

- Coffee Break + Poster session

Moderator / Moderador - Auditorium Dionísio Gonçalves

José Manuel F. Nogueira (Universidade de Lisboa)

[Nexera UC Online SFE-SFC-MS System](#)

17:00-17:30

- EC-02 **José Manuel Macias**
 Izasa Scientific

17:30-18:00

Oral session II / Sessão Oral II

- OC-13 [Phenolic composition, antioxidant and biological activities of Portuguese vine shoot from *Touriga Nacional* and *Tinta Roriz* varieties](#)
Manuela Moreira
- OC-14 [Caracterização química e bioatividades de *Hibiscus sabdariffa* L.](#)
Inès Jabeur

19:30

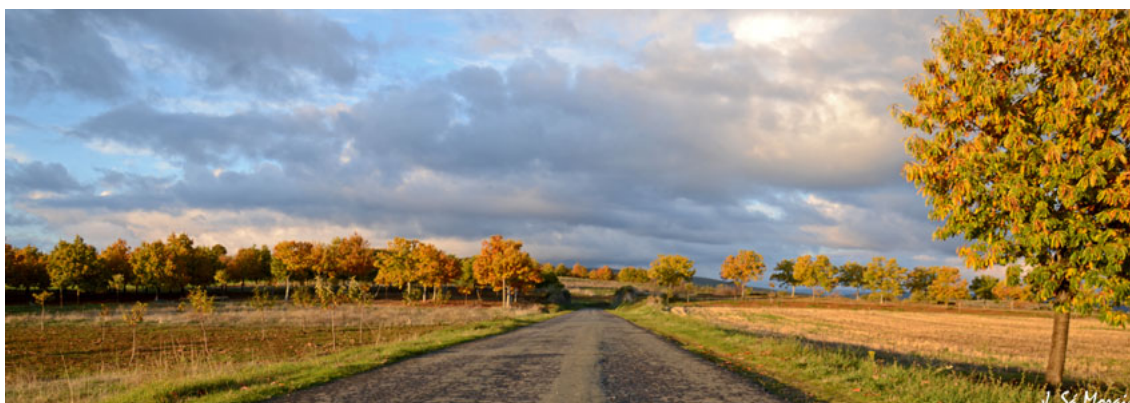
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Time	December 5
Moderator / Moderador - Auditorium Dionísio Gonçalves Marcela Segundo (Universidade do Porto)	
9:00-10:00	PL-02 Green Foodomics: new strategies towards the discovery of functional food ingredients with biological activity Elena Ibanez Institute of Food Science Research – CIAL, Espanha
10:00-10:30	IC-03 Multicolumn Continuous Countercurrent Chromatography for Downstream Processing of Biopharmaceuticals Paulo Mota University Nova de Lisboa, Portugal
10:30-11:00	• Coffee Break + Poster session
Moderator / Moderador - Auditorium Dionísio Gonçalves M. Beatriz Oliveira (Universidade do Porto)	
11:00-12:30	Oral session IIIA / Sessão Oral IIIA
OC-15	Selective capillary coatings for in-tube SPME off-line or on-line with LC-MS/MS for bioanalysis Israel Souza
OC-16	Preparative separation of nadolol racemates by fixed-bed liquid chromatography using C18 columns Rami Arafah
OC-17	Hollow fiber microextraction (HF μ E) - A new hybrid microextraction technique for trace analysis Alessandra Ide
OC-18	Tape Adsorptive Microextraction - A new analytical approach for sample enrichment Nuno Neng
OC-19	Multidimensional chromatographic techniques applied to chemical ecology Eduardo Mateus
OC-20	Síntese de fase estacionária monolítica e posterior imobilização térmica de polidimetilsiloxano (PDMS) sobre a superfície porosa para aplicação em cromatografia líquida capilar Carla Bottoli
Moderator / Moderador - Auditorium B Helena Soares Costa (Instituto Nacional de Saúde Dr. Ricardo Jorge)	
11:00-12:30	Oral session IIIB / Sessão Oral IIIB
OC-21	Permeation of caffeine, CQA and HMF from Coffee silverskin extracts on EpiSkin™ 3D model Diana Pinto
OC-22	NTME/GC-qMS: a powerful strategy for selection sets of cancer-specific VOMs with potential for cancer differentiation Priscilla Figueira
OC-23	Validation of a dSPE-HPLC methodology for the determination of biogenic amines in wines Juliana Ferreira
OC-24	Looking for new contributions in asthma biomarkers - a chromatographic-based approach José Câmara

	OC-25	Gas-chromatography mass spectrometry analysis of ¹³ C-labeled fatty acids revealed new information about the ruminal biohydrogenation of linolenic acid Susana Alves
	OC-26	Multidetecção de antibióticos em tecidos comestíveis: evolução de estratégias analíticas Andreia Freitas
Moderator / Moderador - Auditorium Dionísio Gonçalves M. Beatriz Oliveira (Universidade do Porto)		
12:30-13:00	EC-03	A new, fast, simple, and ultra-sensitive determination of semi-volatile organic compounds in water samples by GC-MS/MS Triple Quadrupole system Miguel Ángel Pérez Bruker Applications Development Laboratory
13:00-14:30		• Lunch
Moderator / Moderador - Auditorium Dionísio Gonçalves Victor Freitas (Universidade do Porto)		
14:30-15:00	IC-04	Polyphenols identification. Has LC-MS killed HPLC-DAD Celestino Santos-Buelga University of Salamanca, Espanha
15:00-16:30	Oral session IVA / Sessão Oral IVA	
	OC-27	Chromatographic analysis of nutritional and bioactive compounds in vegetative parts of <i>Fragaria vesca</i> L. obtained by in vitro culture Maria Inês Dias
	OC-28	Liquid by-products from canned fish industry as sources of omega-3 polyunsaturated fatty acids Ana Carvalho
	OC-29	Fingerprinting of volatome profile of lemon (<i>Citrus limonum</i>) based on a new analytical approach - NTME/GC-MS analysis José Figueira
	OC-30	Perfil fenólico e bioatividades de maçã portuguesa da variedade "Bravo de Esmolfe" Tânia Pires
	OC-31	The volatile profile for discrimination of lavender and heather honey, using solid phase microextraction and gas chromatography-mass spectrometry Soraia Falcão
	OC-32	<i>Geranium robertianum</i> L. phenolic compounds: individual characterization of stems and leaves profile Marcelo Catarino
Moderator / Moderador - Auditorium B Cristina Delerue Matos (Instituto Politécnico do Porto)		
15:00-16:30	Oral session IVB / Sessão Oral IVB	
	OC-33	Ácido 4-hidrazinobenzoico como agente derivatizante para a determinação de aldeídos por HPLC-UV e LC-MS Pedro Brandão
	OC-34	Effects of natural colourants on the fatty acids profile of different ice cream formulations Custódio Roriz
	OC-35	High Throughput Bar Adsorptive Microextraction (HT-BA μ E): A novel cost-effective tool for monitoring psychotropic drugs in biological matrices Samir Ahmad

	OC-36	Caracterização do perfil fenólico de agrião por HPLC-DAD-ESI/MS e otimização da extração por alta pressão hidrostática utilizando a metodologia de superfície de resposta José Pinela
	OC-37	Polyols based solvents for the extraction of phenolic compounds from <i>Juglans regia</i> L. leaves Vanessa Vieira
	OC-38	Oncolytic virus purification using multi-column chromatography João Mendes
16:30-17:00		• Coffee Break + Poster session
Moderator / Moderador - Auditorium Dionísio Gonçalves Manuela Pintado (Universidade Católica)		
17:00-17:30	EC-04	Aplicações de cromatografia iónica e abordagem às técnicas de preparação em linha de amostras Susana M. M. Pereira MT Brandão Lda
17:30-18:00		Oral session V / Sessão Oral V
	OC-39	Effects of e-beam irradiation on bioactive content of cherry tomatoes Joana Madureira
	OC-40	Otimização da extração de antocianinas de cereja madura através da metodologia de superfície de resposta Carla Pereira
18:00-19:00		Reunião Grupo de Cromatografia SPQ /Meeting
20:00		Meeting Dinner / Jantar do Encontro



Time		December 6	
Moderator / Moderador - Auditorium Dionísio Gonçalves Manuel António Coimbra (Universidade de Aveiro)			
9:00-10:00	PL-03	Comprehensive two-dimensional liquid chromatography in food and natural products analysis Paola Dugo Università di Messina, Itália	
10:00-10:30	IC-05	Separation and concentration of nutraceuticals, active compounds and essential oils from Agro-Food sources using supercritical carbon dioxide Juan Francisco Rodríguez TQUIMA, Espanha	
10:30-11:00		• Coffee Break + Poster session	
Moderator / Moderador - Auditorium Dionísio Gonçalves Alírio Rodrigues (LSRE/LCM, Faculdade de Engenharia, Universidade do Porto)			
11:00-12:00		Oral session VIA / Sessão Oral VIA	
	OC-41	Efeito da radiação gama e feixe de eletrões na concentração de ergosterol em <i>Agaricus bisporus</i> (J.E. Lange) Imbach Ângela Fernandes	
	OC-42	Optimization of the extraction of triterpenes from <i>Ganoderma lucidum</i> Miguel Angel Prieto	
	OC-43	Unveiling the chemical composition of willow added-value lipophilic extractives by gas chromatography-mass spectrometry Patrícia Ramos	
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Moderator / Moderador - Auditorium B José Câmara (Universidade da Madeira)			
11:00-12:00		Oral session VIB / Sessão Oral VIB	
	OC-45	Characterization of the volatile composition of encapsuled coffee Daive Mendes	
	OC-46	Increased productivity in impurity profile characterization of innovative pharmaceuticals João Pereira	
	OC-47	Characterization of phospholipids, including plasmalogens, in bivalves of the Portuguese coast using solid-phase extraction followed by gas-liquid chromatography Rui Bessa	
	OC-48	Characterization and Identification of Four Essential Oils by GC-MS Ana Marques	
Moderator / Moderador - Auditorium Dionísio Gonçalves Luís Pais (Instituto Politécnico de Bragança)			
12:00-12:30	EC-05	Successful generic approaches for heartcutting 2DLC with focus on user friendliness Isabelle François Waters	
12:30-13:00		Closing Session / Sessão de Encerramento	

- PL Plenary communication / Comunicação plenária
- IC Invited oral communication / Comunicação oral convidada
- EC Enterprise oral communication / Comunicação oral de empresa
- OC Oral communication / Comunicação oral



J. Sá Morais

EC - Enterprise oral communications / Comunicações orais de empresas

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Polyols based solvents for the extraction of phenolic compounds from *Juglans regia* L. leaves

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In this work, a set of polyols was selected to be used as solvents for the extraction of phenolic compounds from *Juglans regia* L. (walnut) leaves. Their biocompatibility and low toxicity makes them an interesting option with potential industrial applications in the cosmetic, pharmaceutical or food areas. In fact, some of them are already used as cosmetic ingredients and/or can be obtained from renewable raw materials [1, 2].

Walnut leaves are an important source of bioactive molecules, such as phenolic compounds, suggesting that their extracts (or pure components) could be used as natural antioxidants in different applications, e.g. to replace synthetic antioxidants such as BHT (2,6-di-*tert*-butyl-4-methylphenol) or in dermatological bases preventing oxidative damage [3,4].

Hence, the extraction performance of glycerol and a series of diols (1,2-ethanediol, 1,2-propanediol, 1,3-propanediol, 1,3-butanediol, 1,2-pentanediol, 1,5-pentanediol, 1,2-hexanediol, 1,6-hexanediol) was screened and the phenolic profile, characterized by HPLC-DAD. To evaluate the response, only the main bioactive compounds present in the extract (acid 3-*O*-caffeyloquinic acid, quercetin 3-*O*-glucoside and quercetin *O*-pentoside) were considered. In a second phase, for comparison purposes, the most promising polyols were selected to prepare betaine based deep eutectic mixtures. After selecting the best solvent, the remaining extraction conditions (time, temperature and water content) were further optimized. These results provide relevant information for the design of an extraction process of phenolic compounds from *J. regia* leaves using alternative solvents that could also play a role as a formulation medium.

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