

Full Conference Programme

Monday, 28. Feb.2022

13:00 - 14:00	Registration		
14:00 - 14:30	Welcome/Opening Session		
14:30 - 15:30	Plenary lecture		
	PL-01	Nanoparticle processing with compressed CO ₂ - basic and applied research	Nora Ventosa
Session 1 Co-chairs: Elena Ibáñez (CIAL-CSIC); Mara Braga (Univ. Coimbra)			
15:30 - 15:50	O-01	Scale-up of supercritical CO ₂ extraction process for production of milk thistle extract	Stoja Milovanovic
15:50 - 16:10	O-02	Use of supercritical CO ₂ to obtain enriched flavouring fractions from black truffle	Eva Tejedor-Calvo
16:10 - 16:30	O-03	Supercritical CO ₂ selective extraction of saponins with nutraceutical application towards metabolic syndrome from germinated black beans (<i>Phaseolus vulgaris</i> L.)	Daniel Guajardo-Flores
16:30 - 17:00	Coffee Break + Poster Session		
Keynote Lecture			
17:00 - 17:30	K-01	Application of supercritical carbon dioxide in catalysis and in aerogel fabrication	Pedro Vidinha
Session 2 Co-chairs: Ana M. Mainar (Univ. Zaragoza); Naiara Fernández (iBET)			
17:30 - 17:50	O-04	Supercritical CO ₂ extraction as a tool to isolate phytochemicals from Rice (<i>Oryza sativa</i> L.) by-products	João P. Baixinho
17:50 - 18:10	O-05	Extraction from hemp biomass and seed	Lourdes Calvo
18:10 - 18:30	O-06	Supercritical fluid extraction and fractionation of the oil from marina microalgae <i>Cryptocodinium cohnii</i> to obtain biodiesel and omega-3 compounds (DHA)	Beatriz P. Nobre
18:30 - 20:30	Welcome Reception		

Tuesday, 01. March.2022

09:00 - 10:00	Plenary lecture		
	PL-02	"Greenering" pharmaceutical manufacturing: the role of scCO ₂	Ana Aguiar-Ricardo
Session 3 Co-chairs: María José Cocero (Univ. Valladolid); José Coelho (I.S. Engenharia Lisboa)			
10:00 - 10:20	O-07	Accessing cork biomass fractions via conventional chemical and high pressure and temperature water	Elaine G. Mission
10:20 - 10:40	O-08	Subcritical water extraction of quercetin derivatives and other flavonoids from onion skin wastes ("Allium cepa" cv. Horcal): effect of temperature and solvent properties	Óscar Benito-Román
10:40 - 11:00	O-09	Novel micelles of PEG functionalized with coumarin toward multifunctional drug delivery systems	Sonia López
11:00 - 11:30	Coffee Break + Poster Session		
Keynote Lecture			
13:30 - 12:00	K-02	12 years of the Sudden Expansion Reactor: Invention, Key Results, Opportunities and Industrial Experience	Danilo Cantero
Session 4 Co-chairs: Ignacio Gracia (U. Castilla-La-Mancha); Ana Aguiar-Ricardo (U. Nova Lisboa)			
12:00 - 12:20	O-10	Soybean oil-based cyclic carbonates synthesis in supercritical CO ₂ sustained by halide organocatalysts	Juan Catalá
12:20 - 12:40	O-11	High pressure phase equilibria prediction of renewable lignin derived aromatic compounds with CO ₂	Selva Pereda
12:40 - 13:00	O-12	Machine learning models for the prediction of diffusivities in supercritical CO ₂ systems	José P.S. Aniceto
13:00 - 14:30	Lunch		

Plenary lecture			
14:30 - 15:30	PL-03	Sustainable aerogel production using SICLA technology	Eunate Goiti & Francisco Ruiz
Session 5 Co-chairs: Albertina Cabañas (U. Complutense Madrid); Ana V.M. Nunes (U. Nova Lisboa)			
15:30 - 15:50	O-13	Batch and continuous production of directly compressible drug nanopowders using CO ₂ -assisted spray coating	Luís Padrela
15:50 - 16:10	O-14	Micronization of Ciprofloxacin by the Supercritical Antisolvent Technique (SAS)	Albertina Cabañas
16:10 - 16:30	O-15	Manufacturing of liposomal-loaded hydrophilic or hydrophobic drugs dry powder formulations using supercritical carbon dioxide	Clarinda Costa
16:30 - 17:00	Coffee Break + Poster Session		
Session 6 Co-chairs: Lourdes Calvo (U. Complutense Madrid); Ana L. Oliveira (U. Católica Portuguesa)			
17:00 - 17:20	O-16	Supercritical CO ₂ technology for the production of sterile and drug-loaded scaffolds	Víctor Santos-Rosales
17:20 - 17:40	O-17	Development of bioMIPs Using Supercritical Fluids	Ana I. Furtado
17:40 - 18:00	O-18	Customized and bioactive bone scaffolds obtained by a novel technological duo	Ana Iglesias-Mejuto
18:00 - 22:00	Cultural Activities & Meeting Dinner		

Wednesday, 02.March.2022

Plenary lecture			
09:00 - 10:00	PL-04	Challenge dots for Supercritical community: Flucomp rocks!	Ignacio Gracia
Session 7 Co-chairs: Sagrario Beltrán (Univ. Burgos); Carlos Silva (Univ. Aveiro)			
10:00 - 10:10	SO-01	Combined supercritical fluid technology for the preparation of dry powders loaded with beclomethasone dipropionate for pulmonary delivery	Thoa Duong
10:10 - 10:20	SO-02	Supercritical fluid extraction of lupane triterpenoids from "Acacia dealbata" biomass – effect of pressure, temperature and cosolvents	Vítor H. Rodrigues
10:20 - 10:30	SO-03	Polymorphic control of indomethacin with the gas antisolvent method	Fidel Mendez Canellas
10:30 - 10:40	SO-04	Towards the fabrication of medicinal nanovesicular formulations under GMPs	David Piña Muñoz
10:40 - 10:50	SO-05	Self-assembled silk fibroin aerogel particles for wound healing	Beatriz G. Bernardes
10:50 - 11:00	SO-06	Supercritical carbon dioxide Salvia miltiorrhiza extraction: process optimization and analysis of bioactive compounds	Encarnación Cruz
11:00 - 11:30	Coffee Break + Poster Session		
11:30 - 12:30	FLUCOMP Meeting		
12:30 - 13:00	Closing Session & Farewell		

List of posters (by theme)

Extraction and Fractionation/Purification		
Poster Nr.	Title	Authorship
P01	Pressurized liquids extraction for obtaining microalgae extracts enriched in carotenoids with anti-inflammatory and neuroprotective effects	Rocio Gallego, Alberto Valdés, Zully J. Suárez-Montenegro, José David Sánchez-Martínez, Alejandro Cifuentes, Elena Ibáñez, Miguel Herrero
P02	Influence of pretreatments on the sub and supercritical-CO ₂ extraction of usnic acid from " <i>Usnea barbata</i> "	Herminia Domínguez, Ismael Rodríguez-González, Beatriz Díaz-Reinoso
P03	Supercritical CO ₂ extraction of tucumã-of-Pará oil rich in β-carotene on large scale: Experimental and mathematical modeling	Raul Nunes de Carvalho Junior, Eduardo Gama Ortiz Menezes, Fernando de Freitas Maués de Azevedo, Ivonete Quaresma da Silva de Aguiar
P04	Supercritical CO ₂ defatting of " <i>Hermetia illucens</i> " larvae	Emma Cantero-Bahillo, David Villanueva-Bermejo, M. Teresa Fernández-Felipe, Joaquín Navarro del Hierro, Diana Martín, Tiziana Fornari
P05	Optimization of supercritical CO ₂ extraction of phenolic and lipidic fractions from " <i>Gigartina pistillata</i> "	Ismael Rodríguez-González, Herminia Domínguez, Beatriz Díaz-Reinoso
P06	SPAGYRIA: Sustainable and Inclusive Production of Organic Skincare	Ana M. Mainar, Raquel Mura, Juan I. Pardo, José F. Martínez, José S. Urieta
P07	Supercritical Antisolvent Fractionation of " <i>Melissa officinalis</i> " Extracts	José S. Urieta, Raquel Mur, Ana M. Mainar
P08	Supercritical CO ₂ Extraction and Purification of Bioactive Compounds in Olive Leaf with Molecularly Imprinted Polymers	Catarina P. Gomes, Ayssata Almeida, Rolando C.S. Dias, Cláudia Martins, Mário R.P.F.N. Costa
P09	Bioprospecting neuroprotective extracts from Algerian plants using green compressed fluid extractions	Norelhouda Abderrezag, Wahida Louaer, J.David Sanchez-Martínez, Zully J. Suarez-Montenegro, Abdeslam-Hassen Meniai, Jose Antonio Mendiola
P10	Highlighting the bioactivity of kiwiberry leaves extracts as cosmetic ingredient – An exploratory " <i>in vitro</i> " study	Ana Margarida Silva, Juliana Garcia, Paulo Costa, Cristina Delerue-Matos, Francisca Rodrigues
P11	" <i>Salicornia ramosissima</i> ": A possible green alternative with valuable bioactive properties for cosmetics	Ana Margarida Silva, Ana Correia, Manuela M. Moreira, Cristina Delerue-Matos, Francisca Rodrigues
P12	Neuroprotective compounds recovered by pressurized liquid extraction from agrifood by-products	José David Sánchez-Martínez, Zully J. Suárez-Montenegro, Gerardo Alvarez-Rivera, Rocio Gallego, Alberto Valdés, Jose A. Mendiola, Miguel Herrero, Alejandro Cifuentes, Elena Ibáñez
P13	Phytochemistry, metabolomics, and biological activity of " <i>Gypothamnium pinifolium</i> " Phil. from Northern Chile	Ruth E. Barrientos, Gerardo Álvarez-Rivera, Elena Ibáñez, Adrián Puerta, José M. Padrón, Jorge Bórquez, Javier Palacios, Mario J. Simirgiotis
P14	Extraction of phenolic compounds from Brazil nut (" <i>Bertholletia excelsa</i> " HBK) skin using pressurized liquid extraction	Wilson V. Vasquez-Rojas, M. Pilar Cano, Tiziana Fornari
P15	High-pressure assisted extraction of levodopa from <i>Mucuna pruriens</i> seeds	Marina Justi, Sandra S. Silva, Pedro J. Carvalho, Helena Passos, Ana M. Ferreira, João A.P. Coutinho
P16	Mathematical modelling and simulation of reconditioning processes in supercritical CO ₂ extraction	Felipe Toledo, José M. del Valle
P17	Conceptual design of a high-pressure packed column for the supercritical CO ₂ fractionation of glycerol acetates	Mariana Fortunatti Montoya, Francisco Sánchez, Pablo Hegel, Selva Pereda
P18	Extraction in supercritical fluids and conventional extraction of " <i>Baccharis tola</i> " from northern Chile, chemical profile and enzyme inhibition	Carmen Cortés, Ruth E. Barrientos, Francisca Salinas, Mari Carmen Ruiz-Domínguez, Pedro Cereza, Carlos A. Areche, Jorge Bórquez, Mario J. Simirgiotis
P19	Valorization of the industrial solid residue generated after agar extraction from " <i>Gelidium sesquipedale</i> ", by emerging technologies	María Teresa Sanz, Ester Trigueros, Patricia Alonso-Riaño, Rodrigo Melgosa, Alba Esther Illera, Óscar Benito-Román, Sagrario Beltrán
P20	Subcritical water extraction scale-up from laboratory to pilot system for red algae residue valorization	E. Trigueros, P. Alonso-Riaño, Ó. Benito-Román, R. Melgosa, M.T. Sanz, S. Beltrán, A.E. Illera
P21	Compressed fluids for the sustainable valorization of winemaking by-products with antioxidant properties	Marina Alarcón, José David Sánchez-Martínez, María Elena Alañón, María Soledad Pérez-Coello, Alejandro Cifuentes, Elena Ibáñez, Gerardo Álvarez-Rivera

P22	Supercritical carbon dioxide extraction and enzymatic hydrolysis of brewer's spent grain	P. Alonso Riaño, R. Melgosa, E. Trigueros, Ó. Benito-Román, A.E. Illera, S. Beltrán, M. T. Sanz
P23	Lipids recovery from a new Bulgarian green algae strain " <i>Scenedesmus obliquus</i> " BGP by conventional and SC Extraction	Jose AP Coelho, Stanislava Boyadzhieva, Dragomir S. Yankov, Roumiana P. Stateva
P24	Modification of brewer's spent grain after sc- CO ₂ extraction: improvement of sugar and phenolic compounds release	Patricia Alonso-Riaño, Rodrigo Melgosa, Esther Trigueros, Sagrario Beltrán, María Teresa Sanz Diez
P25	Essential oil versus supercritical carbon dioxide volatile oil of needles of Aleppo pine from Tunisia	Mariem Khouja, Chokri Messaoud, Abdelhamid Khaldi, Mohamed Larbi Khouja, António F. Palavra, Beatriz P. Nobre, Ana Cristina Figueiredo, José P. Coelho
P26	Oxindole alkaloids extraction from <i>Uncaria tomentosa</i> leaves using pressurized solvents	José R. S. Botelho, Marisa C. Gaspar, Hermínio J. C. de Sousa, Mara E. M. Braga
P27	Isolation of biologically active compounds from selected natural materials with supercritical carbon dioxide	Nika Kučuk, Kaja Kupnik, Mateja Primožič, Željko Knez, Maja Leitgeb

Reactions		
Poster Nr.	Title	Authorship
P28	Catalytic reactions using coordination polymers in supercritical CO ₂ medium: knoevenagel condensation with Zn(II) CP catalyst	Nuno R. Conceição, Beatriz P Nobre, Anirban Karmakar, António M. F. Palavra, Kamran T. Mahmudov, M. Fátima C. Guedes da Silva, Armando J. L. Pombeiro
P29	High Pressure CO ₂ Conversion into Methanol: A Techno-Economic Analysis of an Industrial Plant at Alvaiázere, Portugal	Yana Hryno, Mario F.J. Eusébio, Nuno Lapa, Ana Reis Machado, Ana F. Almeida, Ana V.M. Nunes

Thermodynamics, Phase Equilibria, and Transport phenomena/properties		
Poster Nr.	Title	Authorship
P30	Supercritical CO ₂ injection into oil reservoirs: Effects of phase density changes on the recovery factor	L.L.O. Setaro, L.S. Bastos, G.M.N. Costa, S.A.B. Vieira de Melo
P31	Measurement and modeling of the density of the mixture sc CO ₂ + CH ₄	Arley S. Carvalhal, Igor E.S. Lins, Fábio P. Nascimento, Verônica J. Pereira, Gloria M.N. Costa, Silvio A. B. Vieira de Melo
P32	Models for tracer diffusivities in liquid and supercritical ternary systems	Bruno Zêzere, Inês Portugal, José R.B. Gomes, Carlos M. Silva
P33	Experimental determination of phase equilibria at high pressures of the ethyl esters of palm oil and murumuru oil ethyl esters in carbon dioxide	Fernando de Freitas Maués de Azevedo, Eduardo Gama Ortiz Menezes, Marilena Emmi Araújo, Nélio Teixeira Machado, Raul Nunes de Carvalho Junior
P34	Measurements and correlation of surface tension of water and interfacial tension between water and nitrogen at high pressure and high temperature	Tijana Adamovic, Rafael Villablanca, Vesna Leontijevic, Philip Jager, Angel Martin, Maria Jose Cocero
P35	Modelling and scaling-up of a continuous sfee process	D.F. Tirado, A. Cabañas, L. Calvo

Materials, Biomaterials and Sterilization		
Poster Nr.	Title	Authorship
P36	Effect of supercritical CO ₂ sterilization process on the physicochemical properties of bio-based aerogels	María Carracedo-Pérez, Víctor Santos-Rosales, Ana Iglesias-Mejuto, Carlos A. García-González, Beatriz Magariños
P37	Use of polylactic acid impregnated with grape pomace extract by supercritical CO ₂ for biomedical applications	Lidia Verano, Cristina Cejudo, Lourdes Casas, Casimiro Mantell
P38	Study of the Effect and significance of Process variables on the microcellular foaming of different TPUs using supercritical CO ₂	Pablo Belmonte, Jesús M. García-Vargas, J. Francisco Rodríguez, M. Teresa García, Maria Jesus Ramos
P39	Core-shell alginate-chitosan aerogels as drug delivery carriers for oral administration	Carlos Illanes-Bordomás, Mariana Landín, Carlos A. García-González
P40	Sequential scCO ₂ drying and sterilization of alginate-gelatin polyelectrolyte complexes (PECs)	Cristiana S. A. Bento, Susana Alarico, Nuno Empadinhas, Hermínio C. de Sousa, Mara E. M. Braga
P41	Supercritical CO ₂ drying of non-mammalian gelatin-methacryloyl hydrogels for aerogel formation	M. Pełczyńska, C. Padilla, C. Covarrubias, A. Cabañas, J. Enrione
P42	Chitosan-xanthan gum PEC-based aerogels as innovative solutions for biomedical and environmental applications	Luciana I. N. Tomé, Marco S. Reis, H. C. de Sousa, Mara E. M. Braga

P43	Novel modified cellulose-based aerogels for tissue engineering and environmental applications	Luciana I. N. Toméa, José A. F. Gamelas, M. G. Rasteiro, H. C. de Sousa, Mara E. M. Braga
P44	Inactivation of " <i>Staphylococcus epidermis</i> " in personalised implants using high-pressure CO ₂	N. Martínez, D.R. Serrano, L. Calvo.

Particle production		
Poster Nr.	Title	Authorship
P45	Amorphization Versus Cocrystallization of a Poorly Soluble Drug Using Supercritical CO ₂ -Assisted Spray Drying	Aaron O'Sullivan, Kevin M. Ryan, Luis Padrela
P46	Formation of novel composites Titanium-Cerium nanoparticles by supercritical antisolvent process	Ignacio García-Casas, Diego Valor, Marta Renedo, Antonio Montes, Clara Pereyra, E. J. Martínez de la Ossa
P49	A stability study of cross-linked lysozyme aggregates in supercritical carbon dioxide	Gordana Hojnik Podrepšek, Željko Kneza, Maja Leitgeb