

SCIENTIFIC PROGRAM

Time		Tuesday, 2/10	Wednesday, 3/10	Thursday, 4/10						
8:00	8:15	Registration	Plenary Lecture (PL3) Rajamani Krishna	Plenary Lecture (PL5) Gabriele Centi						
8:15	8:30									
8:30	8:45									
8:45	9:00									
9:00	9:15									
9:15	9:30	Welcome Session	Plenary Lecture (PL3) Rajamani Krishna	Plenary Lecture (PL5) Gabriele Centi						
9:30	9:45									
9:45	10:00	Plenary Lecture (PL1) Nien-Hwa Linda Wang	O-BB07	O-EE01	O-IM03	O-RS11	O-EE10	O-BS05		
10:00	10:15		O-BB08	O-EE02	O-IM04	O-RS12	O-EE11	O-BS06		
10:15	10:30		O-BB09	O-EE03	O-IM05	O-RS13	O-EE12	O-BS07		
10:30	10:45		O-BB10	O-EE04	O-IM06	O-RS14	O-EE13	O-BS08		
10:45	11:00	Coffee-break	O-BB11	O-EE05	O-IM07	O-RS15	O-EE14	O-BS09		
11:00	11:15		Coffee-break			Coffee-break				
11:15	11:30	O-RS01	O-BS01	Bondalti	Coffee-break			Coffee-break		
11:30	11:45	O-RS02	O-BS02	O-MP01	O-BB12	O-EE06	O-ME01	Plenary Lecture (PL6) Nikolaos Hadjichristidis		
11:45	12:00	O-RS03	O-BS03	O-MP02	O-BB13	O-EE07	O-ME02			
12:00	12:15	O-RS04	O-BS04	Prio	O-BB14	O-EE08	O-ME03			
12:15	12:30	O-RS05	O-BB01	O-IM01	O-BB15	O-EE09	O-ME04			
12:30	12:45	Lunch			Lunch			Lunch		
12:45		Lunch			Lunch			Lunch		
14:15	14:30	Keynotes (KN1 and KN2) João Rocha Rosa Quinta-Ferreira			Keynotes (KN3 and KN4) Adélio Mendes José António Teixeira			Keynotes (KN5 and KN6) Maria Ascensão Reis Ramesh Gardas		
14:30	14:45	O-RS06	O-BB02	BB&G	Plenary Lecture (PL4) Maria José Cocero			O-RS16	O-EE15	O-IM11
14:45	15:00	O-RS07	O-BB03	O-MP03				O-RS17	O-EE16	O-IM12
15:00	15:15	O-RS08	O-BB04	BP				O-RS18	O-EE17	O-IM13
15:15	15:30	O-RS09	O-BB05	O-MP04				O-MP05	O-IM09	O-IM14
15:30	15:45	O-IM02	O-BB06	O-RS10	O-IM08			O-IM10	O-IM15	
15:45	16:00	Plenary Lecture (PL2) Paul Christakopoulos			Poster Session and Coffee-break P-BB, P-RS, P-MP, P-ME			Awards and Closing Session		
16:00	16:15	Plenary Lecture (PL2) Paul Christakopoulos			Poster Session and Coffee-break P-BB, P-RS, P-MP, P-ME			Awards and Closing Session		
16:15	16:30	Formal Session with Minister of Economy			Bus to Vista Alegre			Multibiorefinery Project Meeting (Coffee-break) CHEMPOR participants are welcome		
16:30	16:45	Poster Session and Coffee-break P-BS, P-IM, P-EE			Museum Visit					
16:45	17:00	Poster Session and Coffee-break P-BS, P-IM, P-EE			Museum Visit			Multibiorefinery Project Meeting (Coffee-break) CHEMPOR participants are welcome		
17:00	17:15	Poster Session and Coffee-break P-BS, P-IM, P-EE			Museum Visit					
17:15	17:30	Poster Session and Coffee-break P-BS, P-IM, P-EE			Museum Visit			Multibiorefinery Project Meeting (Coffee-break) CHEMPOR participants are welcome		
17:30	17:45	Poster Session and Coffee-break P-BS, P-IM, P-EE			Museum Visit					
17:45	18:00	Poster Session and Coffee-break P-BS, P-IM, P-EE			Museum Visit			Multibiorefinery Project Meeting (Coffee-break) CHEMPOR participants are welcome		
18:00	18:15	Poster Session and Coffee-break P-BS, P-IM, P-EE			Museum Visit					
18:15	18:30	Poster Session and Coffee-break P-BS, P-IM, P-EE			Museum Visit			Multibiorefinery Project Meeting (Coffee-break) CHEMPOR participants are welcome		
18:30	18:45	Poster Session and Coffee-break P-BS, P-IM, P-EE			Museum Visit					
18:45	19:00	Poster Session and Coffee-break P-BS, P-IM, P-EE			Museum Visit			Multibiorefinery Project Meeting (Coffee-break) CHEMPOR participants are welcome		
19:00	19:15	Poster Session and Coffee-break P-BS, P-IM, P-EE			Museum Visit					
19:15	19:30	Poster Session and Coffee-break P-BS, P-IM, P-EE			Museum Visit			Multibiorefinery Project Meeting (Coffee-break) CHEMPOR participants are welcome		
19:30		Poster Session and Coffee-break P-BS, P-IM, P-EE			Museum Visit					
19:30		Conference Dinner			Conference Dinner			Conference Dinner		

[PL] - Plenary Lecture

[KN] - Keynote Presentation

[RS] - Reaction and Separation Processes

[BS] - Biorefinery and Sustainability

[MP] - Modeling, Synthesis and Integration
of Chemical Processes

[BB] - Biological Engineering and Biotechnology

[IM] - Innovative Materials and Applications

[EE] - Energy and Environment

[ME] - Multiscale and Multidisciplinary Engineering
Education

Index

Plenary lectures [PL]

[PL01]

Simulated moving beds: fundamental principles, enabling technologies, and applications

Nien-Hwa Linda Wang, Purdue University

[PL02]

Novel Hybrid Organosolv: Steam explosion-based integrated biorefinery of the lignocellulosic biomass (an evolution from pretreatment to fractionation processes)

Paul Christakopoulos, Luleå University of Technology

[PL03]

Exploiting entropy effects in separations with microporous crystalline adsorbent materials

Rajamani Krishna, University of Amsterdam

[PL04]

Overcoming the challenges of the sustainable biorefinery: supercritical water ultrafast processes

María José Cocero, University of Valladolid

[PL05]

Beyond fossil fuels for a transformative energy and chemistry

Gabriele Centi, University of Messina

[PL06]

The importance of model polymers in polymer science and industry

Nikolaos Hadjichristidis, King Abdullah University of Science and Technology

Keynotes presentations [KN]

[KN01]

The importance of being porous: silicates and functional MOFs

João Rocha, CICECO, University of Aveiro

[KN02]

Advanced reaction processes, wastewater treatment and reuse

Rosa M. Quinta-Ferreira, University of Coimbra

[KN03]

Harvesting and storage of solar energy: a promising new world for off the grid residences?

Adélio Mendes, University of Porto

[KN04]

Oscillatory flow reactors – a platform for process intensification

José António Teixeira, University of Minho

[KN05]

Shifting organic waste paradigm: from accumulation to valorisation into biopolymers

Maria Ascensão M. Reis, Nova University of Lisbon

[KN06]

Ionic liquids as additives for enhancing extraction, absorption and dissolution processes

Ramesh L. Gardas, Indian Institute of Technology Madras

Oral session | Biological Engineering and Biotechnology [O-BB]

[O-BB01]

Production of erythritol by *Yarrowia* species from crude glycerol, *P. Ferreira, M. Ribeiro, A.R.*

Machado, E. Nagy, D.Q. Nguyen, I. Belo

[O-BB02]

Comparing the operation of aerobic granular sludge bioreactors under different hydrodynamic regimens during the treatment of textile wastewater containing silver nanoparticles,

M. Coelho, S. Sousa, A. Rodrigues, R. Franca, C. Viegas, H. Pinheiro, N. Lourenço

[O-BB03]

Assessing the influence of the adsorption time on the build-up of natural-origin polymeric multilayered systems: how fast can we go?, *T. Pesqueira, J. Borges, J.F. Mano*

[O-BB04]

Recovery of value-added antibodies from serum samples, *E.V. Capela, J.A.P. Coutinho, M.R.A.-*

Barros, A.M. Azevedo, M.G. Freire

[O-BB05]

Aerobic granular sludge process treats real fish canning wastewater, *A.M.S. Paulo, C.L. Amorim, P.M.L. Castro*

[O-BB06]

Water2Return: towards the total recovery of nutrients from the sewage water in a slaughterhouse, *C.A. Aragon, A. Real, I. Martin, K. Fahd, J. Parrado, P. Caballero*

[O-BB07]

***Yarrowia lipolytica* as a potential producer of 2-phenylethanol from L-phenylalanine biotransformation**, *A. Braga, A. Oliveira, B. Freitas, E. Nagy, Q. Nguyen, I. Belo*

[O-BB08]

A microfluidic platform for optimization of downstream process of biopharmaceuticals, *R.A.-*

Barros, A. Azevedo

[O-BB09]

Sustainable production of plastic building blocks by enzymatic biocatalysis, *Y.M.-Diz, F. Mantega, G. Feijoo, M.T. Moreira*

[O-BB10]

Designing humanized hydrogels toward tissue engineering and disease modeling, *C. Custódio, S. Santos, C. Monteiro, J. Mano*

[O-BB11]

Valorization of coffee wastes through acidogenic fermentation, *J. Pereira, P.C. Lemos, L.S. Serafim*

[O-BB12]

Non-ionic surfactants as a pretreatment to optimize PHA extraction from mixed microbial cultures, *B. Colombo, J. Pereira, M. Martins, S.P.M. Ventura, F. Adani, L.S. Serafim*

[O-BB13]

Design of a periodic counter-current chromatography process for efficient oncolytic virus purification, *R.J.S. Silva, J. Mendes, M. Berg, L. Mathiason, C. Peixoto, P.M. Alves, M.J.T. Carrondo*,

[O-BB14]

Novel nano-engineering phytantriol-F127-based cubosomes for antibiotic delivery, *J. Domingues, M. O. Pereira, A.M. Sousa, B. Silva*

[O-BB15]

Genotoxicity analysis of different magnetite-based nanoparticles applied in chemical catalysis processes, *M. Gamallo, S. Silva, M. Pintado, G. Feijoo, M.T. Moreira*

Oral session | Biorefinery and Sustainability [O-BS]

[O-BS01]

Production of ethanol from *Pinus pinaster* stump wood extracted pulp and lignin recovery, *C. Mendes, R. Moreira, A. Portugal, M.G. Carvalho*

[O-BS02]

Toward the improved sustainability of bioplastics: process modelling and life cycle assessment of an FDCA production route, *S. Bello, P.M.-Trelles, E. Rodil, G. Feijoo, M.T. Moreira*

[O-BS03]

Biorefinery approach for obtaining pigments, sugars and a protein-rich residue from microalgae, *M.F. de Souza, M.A. Rodrigues, E.P.S. Bon, S.P. Freitas*

[O-BS04]

Harvesting of carotenogenic phase *Dunaliella salina* by membrane filtration at lab and pilot scale, *J. Monte, J. Bernardo, M. Sá, C. Galinha, L. Costa, C. Casanovas, Ca. Brazinha, J. Crespo*

[O-BS05]

Polyols: efficient solvents to extract phenolic compounds from walnut leaves, *V. Vieira, Â. Fernandes, M.A. Prieto, R. Calhelha, L. Barros, J.A.P. Coutinho, I.C.F.R. Ferreira, O. Ferreira*

[O-BS06]

Supercritical CO₂ extraction of Eucalyptus globulus bark: Techno-economic optimization of the industrial process, *V.H. Rodrigues, M.M. R. De Melo, I. Portugal, C.M. Silva*

[O-BS07]

Aqueous solutions of surface-active agents on the recovery of violacein from Yarrowia lipolytica cells, *M. Kholany, J. Vieira, M. Martins, S. Ventura, P. Trébulle, J.-M. Nicaud, J.A.P. Coutinho*

[O-BS08]

Sustainable phenolic resin: a potential adsorbent for amoxicillin removal, *W.M. Moreira, P.V. Viotti, C.M.S.G. Baptista, M.H.N.O. Scaliante, M.L. Gimenes*

[O-BS09]

FCC Feedstocks/Bio-oils Co-processing: Towards understanding of phenolic compounds impact on Ni- and V-USY zeolites, *R. Gerards, I. Graça, F. Ribeiro*

Oral session | Reaction and Separation Processes [O-RS]

[O-RS01]

Separation of nadolol racemates by high pH reversed-phase simulated moving bed chromatography, *R.S. Arafah, A. Ribeiro, A.E. Rodrigues, L. Pais*

[O-RS02]

Separation of hexane isomers in metal organic framework ZIF-8, *A. Henrique, P. Brântuas, J. Silva, A.E. Rodrigues, M. Karimi*

[O-RS03]

Ethylene/ethane separation by gas-phase SMB in binderless Zeolite 13X monoliths, *R. Seabra, V.F.D. Martins, K. Gleichmann, A.M. Ribeiro, A.F.P. Ferreira, A.E. Rodrigues*

[O-RS04]

An alternative method for the separation of C₂/C₃ hydrocarbons mixtures by pressure swing adsorption using the MOF MIL-100(Fe), *V. Martins, R. Seabra, P. Silva, A. Ribeiro, J.-S. Chang, J. Loureiro, A. Ferreira, A.E. Rodrigues*

[O-RS05]

Simulated moving bed reactor for the production of *p*-xylene: isomerization, disproportionation and transalkylation reactions of xylene isomers, ethylbenzene, and toluene in liquid phase, *Q. Shi, J.C. Gonçalves, A.F.P. Ferreira, M.G. Plaza, A.E. Rodrigues*

[O-RS06]

Removal and recovery of technology-critical elements from aqueous solutions using Fe₃O₄/graphite nanoplatelets, *E. Afonso, L. Carvalho, C. Vale, E. Pereira, C.M. Silva, T. Trindade, C.B. Lopes*

[O-RS07]

CFD modelling of flow patterns, tortuosity and residence time distribution in monolithic porous columns reconstructed from X-ray tomography data, *S. Pawlowski, N. Nayak, M. Meireles, C. Portugal, S. Velizarov, J. Crespo*

[O-RS08]

Mixing of dissimilar fluids in confined impinging jets – Mayonnaise equation, *M.S.C.A. Brito, C.P. Fonte, M.M. Dias, J.C.B. Lopes, R.J. Santos*

[O-RS09]

Removal of the mixture of pharmaceuticals sulfamethoxazole and diclofenac from water streams by a polyamide nanofiltration membrane, *D.S. Gomes, M. Cardoso, R.C. Martins, R.Q.-Ferreira, L.M.G.-Ferreira*

[O-RS10]

Assessment of the influence of clearance and agitation on the nucleation rate and particle size distribution in anti-solvent crystallization process of a drug substance, *A. Tulcidas, B. Santos, S. Pawlowski, F. Rocha*

[O-RS11]

Glycerol steam reforming for hydrogen production: traditional versus membrane reactor, *S. Macedo, M. Soria, L. Madeira*

[O-RS12]

Monitoring the transesterification reaction by continuous off-line density measurements, *N. Prieto, A. Ferreira, A. Portugal, R. Moreira*

[O-RS13]

Multifunctional reactors for biogas upgrading through CO₂ methanation: thermodynamic considerations, *A.C. Faria, C.V. Miguel, L.M. Madeira*

[O-RS14]

Effect of TiO₂ plate supported nanotubes on the solar photocatalytic oxidation and ozonation of parabens mixtures, *J. Gomes, J. Lincho, M. Gmurek, P. Mazierski, A.Z.-Medynska, R.Q.-Ferreira, R. Martins*

[O-RS15]

Plug Flow Reactor Analysis By Minimum Entropy, *P. Góes, D. Rosa, J. Manzi*

[O-RS16]

Acidic aqueous biphasic systems: a new paradigm for the ‘one-pot’ extraction of critical metals, *N. Schaeffer, M. Gras, H. Passos, V. Mogilireddy, I. Billard, N. Papaiconomou, J.A.P. Coutinho*

[O-RS17]

Electrical conductive 3D printed monolith adsorbent for CO₂ capture applications, *M.J. Regufe, A. Ferreira, J.M. Loureiro, A.E. Rodrigues, A.M. Ribeiro*

[O-RS18]

Modelling studies of supercritical fluid extraction of oils from grape and chia seeds, *R. Filipe, J. Coelho, D.V.-Bermejo, T. Fornari, R. Stateva*

Oral session | Energy and Environment [O-EE]

[O-EE01]

Unbiased solar charging of an organic-inorganic redox flow battery with a tandem photoelectrode, *A. Khataee, J. Azevedo, P. Dias, E. Dražević, A. Bentien, A. Mendes*

[O-EE02]

Optimization of a passive direct methanol fuel cell with different current collector materials, *B.A. Braz, V.B. Oliveira, A.M.F.R. Pinto*

[O-EE03]

Minimizing non-ideal discharge effects in tangential multicyclone systems, *J. Rocha, J. Paiva, R. Salcedo*

[O-EE04]

Dye Sensitized Solar Cells: guidelines for highly efficient devices based on commercially available materials, *C. Hora, F. Santos, A. Pereira, J. Maçaira, G. Sales, A. Mendes*

[O-EE05]

Intensifying heterogeneous TiO₂ photocatalysis for bromate reduction: A static mixer as catalyst support, *D. Morais, F. Moreira, R. Boaventura, V. Vilar*

[O-EE06]

Life cycle assessment of woody biomass bottom ash valorization in bituminous asphalt, *T.P. da Costa, P. Quinteiro, L. Tarelho, L. Arroja, A.C. Dias*

[O-EE07]

Comparison of radical driven technologies applied for parabens mixture degradation, *M. Gmurek, J. Gomes, R.C. Martins, R.M. Q.-Ferreira*

[O-EE08]

Bioenergy from wastewater in a microbially-charged redox flow cell, *M. Santos, L. Peixoto, C.D.-Ferreira, A. Mendes, M. Alves*

[O-EE09]

Photo-electro-Fenton process for the treatment of highly polluted effluents. Importance of the operational variables, *A.M. Díez, M. Pazos, M.A. Sanromán*

[O-EE10]

Valorization of spent coffee grounds as biosorbent for the retention of fluoxetine from water – a cost-effective alternative to activated carbon, *B. Silva, V. Rocha, A. Lago, T. Tavares*

[O-EE11]

Carbon dioxide conversion into renewable synthetic fuels, through an electrochemical process, *L. Guerra, J. Puna, J.C. Rodrigues, J. Gomes, M.T. Santos*

[O-EE12]

Intensifying heterogeneous photocatalysis for bromates reduction using the NETmix photo-reactor, *S. Santos, L. Paulista, T. Silva, R. Boaventura, M. Dias, J.C. Lopes, V. Vilar*

[O-EE13]

Zeolite-based catalysts for power-to-gas application: A systematic step by step study for achieving a highly active catalyst, *M.C. Bacariza, I. Graça, J.M. Lopes, C. Henriques*

[O-EE14]

Simultaneous desulfurization and denitrogenation of fossil fuels, *F. Lima, A. Silvestre, L. Branco, I. Marrucho*

[O-EE15]

New ecofriendly cheap spacers for efficient monolithic dye sensitized solar cells, *F. Santos, D. Ivanou, J. Maçaira, A. Pereira, A. Mendes*

[O-EE16]

Beating the performance of solar charging redox flow batteries based on a hematite photoelectrode, *P. Dias, J. Azevedo, A. Mendes*

[O-EE17]

Evaluation of different pre-treatment systems for the energy recovery of greenhouse agriculture wastes in a clinker production plant., *L.M.G. Fernández, B.N. Rubia, R.G. Falcón,; F.V. Borrero*

Oral session | Innovative Materials and Applications [O-IM]

[O-IM01]

Development of bio- and eco-composites for the footwear industry, *P.C. Santos, I.P. Fernandes, J.E. Ribeiro, J.A. Pietrobelli, M.F. Barreiro*

[O-IM02]

Catalytic mineralization of formaldehyde by molybdovanadophosphate polyanions supported on cellulose-silica hybrids, *A. Granja, J. Gamelas, M. Evtugina, I. Portugal, D. Evtugin*

[O-IM03]

Hybrid ionic liquids/metal organic frameworks – IL@MOFs - for Gas Separation, *T. Ferreira, A. Vera, B. de Moura, R. Ribeiro, J. Mota, L. Rebelo, J. Esperança, I. Esteves*

[O-IM04]

A novel continuous production of melamine based microcapsules with a skin-hydrating active principle for textile applications using the NETmix technology, *A. Moreira, Y.A. Manrique, J.C.B. Lopes, I.M. Martins, A.E. Rodrigues, M.M. Dias*

[O-IM05]

Novel Alginate-Chitosan aerogel fibres for potential wound healing applications, *M.P. Baptista, V. Gonçalves, F.B. Gaspar, P. Gurikov, A. Matias*

[O-IM06]

Emulsion-coacervation method for the encapsulation of carotenoids, *A. Roda, P. Oliveira, V. Gonçalves, A. Matias, F. Gaspar*

[O-IM07]

Insights into polymer-silica aerogel composites from a molecular modelling and simulation approach, *M. Oliveira, P. Santos, L. Durães, P. Simões*

[O-IM08]

Microencapsulation of marine chlorella by spray drying, *A. Matias, S. Oliveira, M.C. Pereira, A.A.-Bautista, N. Fernández*

[O-IM09]

Cr(III) Removal from Aqueous Solution by Activated Carbons obtained through the Co-pyrolysis of Wastes from Rice Production, *D. Dias,; M. Bernardo, N. Lapa, F. Pinto, I. Matos, I. Fonseca*

[O-IM10]

Overcoming the mass transport limitations of amino acid-based ionic liquids in CO₂ chemical absorption by using Encapsulated Ionic Liquids, *J. Lemus, R. Santiago, C. Lemus, D. Moreno, J. Palomar* [O-IM10]

[O-IM11]

Preparation of ceramic and metallic monolithic catalysts for VOC abatement., *D. Santos, O. Soares, J. Figueiredo, O. Sanz, M. Montes, M. Pereira*

[O-IM12]

Novel hydroxyapatite-TiO₂ composite material for photocatalytic degradation of diclofenac, *I.S. Moreira, S. Murgolo, C. Piccirillo, G. Mascolo, P.M.L. Castro*

[O-IM13]

P-doped glucose-derived carbon/carbon nanotubes hybrids for oxygen reduction reaction, *R. Morais, N. Raap, M. Granja, M. Pereira, J. Figueiredo*

[O-IM14]

Hybrid Polysaccharide Membranes for Dehydration Processes, *I.T. Meireles, S. Fraga, R. Huertas, C. Brazinha, C. Torres, M. Reis, J.Crespo, I. Coelho*

[O-IM15]

Production of biomaterial composed by natural polymers, *V. Soeiro, L. Tundisi, P. Mazzola, E. Tambourgi, M. Chaud, A. Jozala,*

Oral session | Modeling, Synthesis and Integration of Chemical Processes [O-MP]

[O-MP01]

Influence of synthesis process on urea-formaldehyde resins, *C. Gonçalves, J. Pereira, N. Paiva, J. Ferra, J. Martins, F. Magalhães, A.B.-Timmons, L. Carvalho*

[O-MP02]

Entropic analysis in tubular reactor design, *W.R. Araujo, M.M. Silva, D. Rosa, J. Manzi*

[O-MP03]

From the traditional packed-bed reactor to the sorption-enhanced membrane reactor: a step towards H₂ production optimization through glycerol steam reforming, *J.M. Silva, L.S. Ribeiro, J.J.M. Órfão, S. Tosti, M.A. Soria, L.M. Madeira*

[O-MP04]

Window-based feature methods for end-of-batch quality prediction, *R. Rendall, I. Castillo, A. Schmidt, S.-T. Chin, L. Chiang, M. Reis*

[O-MP05]

Nitration process intensification, *A.L.C.L. Lopes, D.C.M. Silva, I. Portugal, C.M.S.G. Baptista*

Oral session | Multiscale and Multidisciplinary Engineering Education
[O-ME]

[O-ME01]

Introduction to systems engineering and sustainability for chemical and biological engineers,
U. Tuzun

[O-ME02]

Assessing bioethics perception among master and PhD students in chemical and environmental engineering in the University of Santiago de Compostela, *M.T. Moreira, G. Feijoo*

[O-ME03]

Virtual labs: tools to enhance students autonomy in Chemical Engineering education, *M.G. Rasteiro, D. Urbano, J. Granjo*

[O-ME04]

Understanding the effect of oxygen on microbial growth – teaching bioprocess engineering to biotechnology students, *A.M.R.B. Xavier, L.S. Serafim*

Poster session | Biological Engineering and Biotechnology [P-BB]

[P-BB01]

Centrifugal partition chromatography on the separation of phenolic compounds derived from lignin depolymerization, *J.H.P.M. Santos, M.R. Almeida, A.C.R.V. Dias, M.G. Freire, J.A.P. Coutinho, S.P.M. Ventura*

[P-BB02]

Phototrophic enhanced biological phosphorus removal: a solution for reducing the aeration necessities in conventional enhanced biological phosphorus removal system, *V. Carvalho, E. Freitas, P. Silva, J. Fradinho, A. Oehmen, M. Reis*

[P-BB03]

Biodegradation of a sulfonated azo dye in anaerobic-aerobic bioreactors treating a simulated textile wastewater investigated by liquid chromatography-tandem mass spectrometry, *R.D.G. Franca, M. C. Oliveira, H.M. Pinheiro, N.D. Lourenço*

[P-BB04]

Technological aspects of beverage production using rice processing by-products: bran and broken rice, *D. Silva, A. Borges, M. Henriques, I. Rodrigues*

[P-BB05]

Bioethanol production from kraft pulp in a circular economy perspective, *R. Branco, J. Pinho, L. Serafim, A. Xavier*

[P-BB06]

Polyhydroxyalkanoates production from agricultural wastes and domestic wastewater with phototrophic purple bacteria, *J. Fradinho, B. Pereira, J. Almeida, A. Oehmen, M. Reis*

[P-BB07]

Optimization of operating conditions in accumulator reactors for improved polyhydroxyalkanoates production with phototrophic purple bacteria, *J. Fradinho, A. Oehmen, M. Reis*

[P-BB08]

Impact of textile wastewater composition on the performance and properties of an aerobic granular sludge-sequencing batch reactor system during operation after granule storage, *A. Rodrigues, R. Rosa, R. Franca, H. Pinheiro, N. Lourenço*

[P-BB09]

Effect of engineered silver nanoparticles on the performance of aerobic granular sludge regarding the potential for abatement of textile wastewater toxicity, *S. Sousa, M. Coelho, R. Franca, C. Viegas, H. Pinheiro, N. Lourenço*

[P-BB10]

From fruit pulp waste to biogas: the assessment of substrate shifts on the performance of a two-stage anaerobic digestion system, *S. Mateus, M. Carvalheira, J. Cassidy, A. Oehmen, M.A.M. Reis*

[P-BB11]

NMR kinetic and cytotoxicity studies of sesquiterpene lactones, *M. S. Silva, J.V. Barbosa, R.G. Costa, I.C. Gonçalves, M.M.S.M. Bastos*

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Optimizing locked nucleic acid/2'-O-methyl-RNA fluorescence in situ hybridization (LNA/2'OMe-FISH) for bacterial detection, *A. S. Azevedo, I.M. de Sousa, R. Fernandes, N.F. Azevedo, C. Almeida*

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Aqueous solutions of tensioactive ionic liquids: alternative solvents in the chlorophyll extraction from green macroalgae, *M. Martins, A.P.M. Fernandes, J.A.P. Coutinho, S.P.M. Ventura*

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Density and sludge volume index estimation in mature aerobic granular sludge by quantitative image analysis and chemometric tools, *C. Leal, Á.V. del Rio, A. Zlatkova, B. Araújo, D. Mesquita, A. Amaral, E. Ferreira*

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The contribution of carbomer in pluronic-based thermoreversible gels of carbamazepine, *J. Ferreira, P. Pires, G. Alves, A.O. Santos*

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Separation of nucleic acids using ionic-liquid functionalized macroporous supports, *P. Pereira, M. Neves, A. Pedro, I. Rodrigues, J. Martins, T. Trindade, J. Queiroz, M. Freire, F. Sousa*

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Isolation and preliminary characterization of a new bacteriophage against *Sphaerotilus natans*, *R. Ferreira, R. Amado, J. Padrão, S. Santos, V. Ferreira, S. Cortez, J. Azeredo, M. Mota, A. Nicolau*

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Effect of polysaccharides in neuronal ROS production, *C. Miranda, M. Bosio, M. Batista, A. Pessoa, R.Q. Ferreira, E.Q. Ferreira, G. Marques, F. Nunes, E. Saggiaro, J. Bassin, M. Dezotti*

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Direct transformation of cellulose to ethylene glycol using Ru-W bimetallic catalysts supported on glucose-derived carbon materials, *L.S. Ribeiro, N.R.-Raap, J.L. Figueiredo, J.J.M. Órfão, M.F.R. Pereira*

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Tunable Hydrophobic Eutectic Solvents Based on Terpenes and Monocarboxylic Acids, *M. Martins, E. Crespo, P. Pontes, L. Silva, M. Bülow, G. Maximo, E. Batista, C. Held, S. Pinho, J. Coutinho*

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Pre-treatment of maize cob waste with hydrogen peroxide for biogas enhancement, *E. Surra, M. Bernardo, N. Lapa, I.A.A.C. Esteves, I. Fonseca, J.P.B. Mota*

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Bacterial cellulose production through hydrolysates produced with cellulosic residues, *F. Garrett, A.E. Rodrigues, F. Dourado, M. Gama*

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Assessment of agroforestry residues potential within the biorefinery context, *M. Gaspar, C. Mendes, S. Pinela, R. Moreira, M.G. Carvalho, M. Quina, M. Braga, A. Portugal*

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One-pot conversion of furfural to bioproducts over mesoporous bimetallic catalysts, *M. Antunes, S. Lima, A. Fernandes, M.F. Ribeiro, D. Chadwick, K. Hellgardt, M. Pillinger, A. Valente*

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Using COSMO-RS to Design Choline Chloride-Based Eutectic Solvents, *D. Abranches, M. Larriba, L. Silva, M.M.-Franco, J. Palomar, S. Pinho, J. Coutinho*

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Sequential extraction of phycocyanin and chlorophyll from *Anabaena cylindrica*, *T.E. Sintra, M. Martins, I.P.E. Macário, S.S. Bagagem, J.L. Pereira, F. Gonçalves, J.A.P. Coutinho, S.P.M. Ventura*

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Analyzing sugar-based NADES: A study based on experimental measurements of solid-liquid phase diagrams and their modeling using COSMO-RS, *L.P. Silva, L. Fernandez, J. Conceição, M.A.R. Martins, A. Sosa, J. Ortega, S.P. Pinho, J.A.P. Coutinho*

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Experimental measurement and thermodynamic modeling of flow parameters sebum biodiesel cold, *C.Lira, Í. Araújo, A. Stragevitch*

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Microwave drying and/or extraction of bioactive compounds from industrial by-products, *C.P. Passos, S.S. Ferreira, S. Cardoso, D. Wessel, G.R. Lopes, A. Rudnitskaya D.V. Evtugin, M.A. Coimbra*

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IProPBio - Integrated process and product design for sustainable biorefineries, *M. Errico, J.P. Coelho, M.P. Robalo, R.M. Filipe, M. Martin, P. Angeli, R.P. Stateva, M.P. Papadaki, C. Pastori, S. Santzouk, H. Matos, A.B.-Petriciolet, M. El-Halwagi, M.L. Corraza*

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Simultaneous degradation of hydrocarbons and production of valuable compounds by *Yarrowia lipolytica*, *M. Lopes, R. Ramôa, S. Miranda, I. Belo*

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Valorisation of tomato wastes for energy production through anaerobic digestion, *S.R. Pina, R.P. Rodrigues, M.J. Quina*

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Phosphorus Adsorption onto Biochars from Pyrolysis and co-Gasification of Agricultural Biowastes, *A. Félix, M. Bernardo, N. Lapa, F. Pinto, C.D.-Matos, I. Fonseca*

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Remarkable performance of Deep Eutectic Solvents aqueous solutions on lignin solubilization and wood delignification, *B. Soares, A.M.C. Lopes P.C.R. Pinto, A.J.D. Silvestre, C.S.R. Freire, J.A.P. Coutinho*

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Life-cycle inventory analysis of microalgae-based biomass production, *M. B.-Vieira, M. Freitas, T. Mata, A. Martins, N. Caetano*

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Valorization of *Aurantiochytrium sp.* microalgae through supercritical fluid extraction: optimization of conditions, measurement and modeling of kinetic curves, *M.M.R. De Melo, M. Sapatinha, J. Pinheiro, M. Lemos, N.M. Bandarra, I. Batista, M.C. Paulo, J. Coutinho, J. Saraiva, C.M. Silva*

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A new test to measure the degree of deionization required for tartaric stabilization of wines by electrodialysis, *P. Henriques, V. Geraldés, A.M.B. Alves*

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Methylcycloalkane/benzene separations by extractive distillation with ionic liquids, *P. Navarro, M. Ayuso, A.M. Palma, M. Larriba, N.D.-Mellado, J. García, F. Rodríguez, J.A.P. Coutinho, P.J. Carvalho*

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Cyclohexane/cyclohexene separation by extractive distillation with cyano-based ionic liquids, *P. Navarro, A. Ovejero, N.D.-Mellado, A.M. Palma, M. Larriba, J. García, F. Rodríguez, J.A.P. Coutinho, P.J. Carvalho*

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Separation of cyclohexene from cyclohexane by liquid-liquid extraction with ionic liquids, *M. Ayuso, N.D.-Mellado, A.O.-Pérez, P. Navarro, M. Larriba, J. García, F. Rodríguez*

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Binderless Shaped Metal-Organic Framework Particles, *R. Ribeiro, C. Antunes, A. Garate, A. Portela, M. Plaza, J. Mota, I. Esteves*

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Esterification process catalyzed by ionic liquids for fatty acid methyl esters production, *C. Meireles*

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REEs recovery from leach solutions of fluorescent lamp wastes using supported liquid membranes, *S. Pavon, A. Fortuny, M.T. Coll, A.M. Sastre*

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Sludge free solar photo-Fenton combined with biofiltration for the degradation of phenolic compounds from olive mill wastewaters, *E. Domingues, J. Gomes, M. Gmurek, M. Quina, R. Martins, R.Q.-Ferreira*

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Ionic liquids as solvent for the extraction of phenols from effluents of biomass fast pyrolysis, *E.J. González, I. Díaz, M. Rodríguez, M.G.-Miquel, M.H.-Caricol*

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Heterogeneous solar photo-Fenton using red-mud as low cost catalyst for olive mill wastewater treatment, *E. Domingues, D. Lopes, J. Frade, M. Gmurek,; Ma. Quina, R. Martins, R.Q.-Ferreira*

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Lagrangian Mixing Simulation and Quantification of Scales, *J. Matos,; M. Brito, M. Dias, J.C. Lopes, R. Santos*

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Modeling of Carbonation and Calcination Reactions of Ca-Looping Process for CO₂ post-combustion capture in gPROMS[®], *M.A. Torres, P. Teixeira, R.M. Filipe, C.I.C. Pinheiro, H.A. Matos*

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Rigorous Modelling of the NO_x absorption Process: steady state sensitivity and validation of the dynamic behavior, *I.L.S.B. Vilarinho, N.M.C. Oliveira, B.P.M. Duarte, S.E.F.M. Pereira*

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Sequential extraction of phenolic compounds from *Libidibia ferrea* fruits using pressurized fluids, *J.R.S. Botelho, R.N. de Carvalho Júnior, H.C. de Sousa, M.E.M. Braga*

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Solketal, a fuel additive produced from the valorization of glycerol, *J. Martinho, J. Puna, M.T. Santos*

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Reactive LIF test reaction for micromixing studies: definition of suitable operational conditions and validation in a T-jets mixer, *J.P. Ribeiro, M. Brito, L. Esteves, R. Santos, M.I. Nunes*

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Molecularly Imprinted Polymers for the chromatographic separation of triterpenic acids isomers, J. Aniceto, A. Rudnitskaya, C.M. Silva

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Model of a Formaldehyde Absorption System, C. Braz, A. Mendes, J. Rocha, R. Alvim, H. Matos

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Synthesis and characterisation of aluminosilicate ZSM-5 membranes, S. Costa, S.P. Cardoso, Z. Lin, C.M. Silva

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Ionic Liquids and Carbohydrates in aqueous media: novel sustainable separation platforms, S. Pedro, M.J. Quental, M. Pereira, A. Ferreira, S. Shahriari, A. Mohamadou, J.A.P. Coutinho, M. Freire

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UVC coupled tube-in-tube membrane microreactor using on-demand H₂O₂ injection for oxytetracycline degradation, P.A.-Muniozguren, J.P. Monteiro, J. Lee, S.M. Miranda, R.A.R. Boaventura, V.J.P. Vilar

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Acoustic cavitation combined ozonation for real abattoir wastewater treatment, P.A.-Muniozguren, M.H. Bohari, C.A.-Rossa, A. Sicilia, M. Bussemaker, D. Saroj, J. Lee

Poster session | Energy and Environment [P-EE]

[P-EE01]

Multi-electrode window for large-area solar hydrogen production, A. Vilanova, T. Lopes, A. Mendes

[P-EE02]

Investigation of the viability of converting a leachate from a mechanical biological treatment plant for municipal solid waste into fertilizers., *J. Cardoso, B. Rodrigues, H. Gomes, P. Brito,*

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Hydrophobic monoterpenes: myth or reality?, *M.A.R. Martins, L.P. Silva,; J.A.P. Coutinho, S.P. Pinho*

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Optimization of soybean oil ethanolysis by response surface methodology, *M.S. Ramos, M. Catarino, A.P.S. Dias, J. Puna*

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Preliminary analysis of ashes from different agricultural and forestry biomass residues, *D. Marques, D. Direito, M. Reinhardt, A.F. Almeida, R.M. Pilão, A.M. Ribeiro*

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Thermochemical behaviour of wet blue shavings in an inert atmosphere., *D. Direito, A.F. Almeida, R.M. Pilão, A.M. Ribeiro*

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Influence of the synthesis conditions on the selectivity of CuZn catalysts towards CO₂ electrochemical reduction (ERCO₂), *C. Azenha, C.M.-Pedrero, A. Mendes*

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Development of a simple and inexpensive methodology for the determination of estrone and 17 α -ethinylestradiol in sludge samples, *V. Louros, D. Lima, J. Leitão, V. Esteves, H. Nadais*

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Removal of estrone and 17 α - ethinylestradiol by digested sludge under different conditions using batch experiments, *V. Louros, A. Sousa, D. Lima, J. Leitão, V. Esteves, H. Nadais*

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Solid-liquid extraction for the determination of volatile methylsiloxanes (VMSs) in sewage sludge samples, *J. Silva, F. Bernardo, N. Ratola, A. Alves, V. Homem*

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Electrochemical degradation of Diclofenac on catalysts based on CNT and M/CNT modified electrodes, *M.A. Ferreira, S. Güneç,; I.K.-Biernacka, S. Soares, M.F. Pereira, J.L. Figueiredo, I. Neves, A.M. Fonseca, P. Parpot*

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Fe(III)NaY_{nano} as efficient electrocatalyst for electrodegradation of Congo Red dye, *M.A. Ferreira, Z. Bencheqroun, H. Zaitan, M. Nawdali, A.M. Fonseca, P. Parpot, I. Neves*

[P-EE13]

Hermetic encapsulation of hole transport-free perovskite solar cell, *S. Emami, D. Ivanou, A. Mendes*

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Electrochemical characterization of commercial activated carbons, *N. Nunes, R.E.-Leitão, A. Martins*

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Preparation of carbon-based electrodes to be used as back-contact in perovskite solar cells, *A.C. Teixeira, L. Andrade, A. Mendes*

[P-EE16]

Thermally and chemically activated biochar obtained in mechanical biological treatment plants for carbon dioxide adsorption, *M. Karimi, Carmem N.D.P. Gonçalves, J.A.C. Silva, A.E. Rodrigues, P. Brântuas*

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Metal-free carbon nanotubes as catalysts for wet air oxidation of oxalic acid: the role of S, B and P heteroatoms, *R.P. Rocha, O.S.G.P. Soares, J.J.M. Órfão, M.F.R. Pereira, J.J. Figueiredo*

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Synthesis of high surface area host-guest hematite photoelectrodes for photoelectrochemical cells, *F. Francisco, P. Dias, J. Azevedo, A. Mendes*

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Increasing cyclone performance with an optimized post-cyclone recirculator: ReCyclone® MHV, *J. Rocha, J. Paiva, R. Salcedo*

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Catalytic hydrolysis of NaBH₄ for Hydrogen synthesis: Study of the by-product of reaction, *D.L. Silva, H.X. Nunes, C. Rangel, A.M.F.R. Pinto*

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Monitoring of emerging micropollutants in hydric media in Bragança district, *A. Nemoto, M. Golçalves, A. Queiroz, A. Ribeiro, P. Brito*

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Numerical Simulation of the Membrane Chemical Degradation in a PEM fuel cell, *R. Ferreira, D. Falcão, A. Pinto*

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Treatment and energy valorization of residual glycerol in a perfectly mixed batch reactor, *L. Paulista, R. Boaventura, V. Vilar, A. Pinheiro, R. Martins*

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Boosting the efficiency of large area dye sensitized solar cells, *D. Ivanou, J. Capitão, J. Macaira, A.I. Pereira, A. Mendes*

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Inhibition effect of heavy metals in microalgal growth and nutrient uptake in wastewaters: an experimental and mathematical approach, *F. Santos, L. Mazur, D. Mayer, V. Vilar, J. Pires*

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Impact of environmental conditions in perovskite solar cells: temperature, oxygen and moisture, *I. Mesquita, L. Andrade, A. Mendes*

[P-EE27]

Degradation of benzodiazepines and carbamazepine by electrochemical oxidation using boron doped diamond electrode and effects on neuronal toxicity, *M. Bosio, B. Souza, E. Saggiaro, M. Dezotti, J. Bassin, E.Q.-Ferreira, R.Q.-Ferreira*

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Drying sewage sludge with coal fly ash for producing a soil amendment, *L.A. Gomes, R.J.A. Lopes, J.C.M. Góis, M.M.J. Quina*

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Biodiesel production using nanocatalyst from calcium waste materials, *S. Santos, L. Nobre, J. Puna, J. Gomes, R.Q.-Ferreira, J. Bordado*

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Preliminary tests on the use of additives to decrease fine particles emission in biomass combustion, *J. Condeço, S. Hariharakrishnan, N. Canha, S. Pereira, M. Costa, J. Bordado, J. Correia*

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Co-combustion of residual forest biomass derived from eucalyptus with sludge from wastewater treatment in the pulp and paper industry: NO and chlorine emissions, *D. Pio, L. Tarelho, T. Nunes, M. Matos*

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Optimization of Fenton/photo-Fenton processes for AOX removal from real pulp and paper bleaching wastewater, *M.I. Nunes, J. Ribeiro, C. Marques, I. Portugal*

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Photocatalytic reduction of bromate in fresh waters using a static mixer as photocatalyst support, *D. Morais, F. Moreira, R. Boaventura, V. Vilar*

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The effect of Ni-Ru supported catalyst in the sodium borohydride catalytic hydrolysis for hydrogen generation., *H.X. Nunes,; C. Rangel, A. Pinto*

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Assignment of hazardous characteristics to wastes: HP14 ecotoxicity, *B. Bandarra, L. Gomes, J. Pereira, F. Gonçalves, R. Martins, M. Quina*

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Thermochemical characterization of tars Produced in the context of biomass gasification, *D. Santos*

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Performance of a passive and semi-passive Direct Alcohol Fuel Cell, *C.S. Moreira, V.B. Oliveira, A.M.F.R. Pinto*

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Gasohol direct production for energy-efficient bioethanol downstream processing, *Â.D. Nunes, J. Granjo, B.P. Duarte, N.M. Oliveira*

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Improved sorbents for Calcium looping CO₂ capture in the cement industry: increasing sintering resistance using waste resources and steam, *P. Teixeira, I. Mohamed, C.I.C. Pinheiro, A. Fernandes, M.F. Ribeiro*

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On the efficacy of single and catalytic ozonation using volcanic rock in mitigating the ecotoxicity of a parabens mixture, *J. Gomes, D. Frasson, J. Pereira, F. Gonçalves, L. Castro, R.Q.-Ferreira, R. Martins*

[P-EE41]

Bromates removal by heterogeneous photocatalysis in a drinking Water treatment plant, *S. Santos, L. Paulista, T. Silva, R. Boaventura, M. Dias, J.C. Lopes, V. Vilar*

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Comparative studies between homogeneous and heterogeneous Fenton's process – low-cost materials experimentation and alternatives to the classic process, *A. Rossi, R. Martins, R.Q.-Ferreira*

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Life cycle assessment of a vanadium flow batter, *J. Gouveia, A. Monteiro, A. Mendes, T. Mata, N. Caetano, A. Martins*

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Nitrogen and COD removal enhancement in a SBR: influence of using step-feed and indirect parameters monitorization, in a real-time control perspective, *I.O. Inocência, A.G. Nogueira, S.C.-Silva, R.C. Martins, R.M.Q.-Ferreira*

[P-EE45]

Kinetic modelling of the pyrolysis and combustion of woody biomass, *M. Martins, D. Pokwiczal, F. Lemos, H. Pereira, J. Zuwała, T. Iluk, M.A. Lemos*

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Energy optimization of sludge anaerobic digestion, *M.T. Santos, F. Alves*

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Study of Hg²⁺ removal from tap water using different biosorbents, *E. Fabre, C. Vale, E. Pereira, C.M. Silva*

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Design of experiments and response surface methodology as powerful tools for optimization of adsorption heat pumps, *J. Pinheiro, S. Salústio, A. Valente, C.M. Silva*

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Copper foam coated with CPO-27(Ni) metal-organic framework for adsorption heat pump: simulation study using OpenFOAM, *J. Pinheiro, S. Salústio, V. Geraldes, A. Valente, C.M. Silva*

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Influence of distinct cations in solution on the equilibrium and kinetics of mercury removal using titanosilicate ETS-4, *S.P. Cardoso, T. Faria, C.B. Lopes, E. Pereira, I. Portugal, C.M. Silva*

Poster session | Innovative Materials and Applications [P-IM]

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Green and sustainable strategy to produce plastic antibodies for highly-specific pharma separation processes, *R. Viveiros, T. Casimiro*

[P-IM02]

Design of RAFT synthesized amphiphilic and stimuli-responsive block copolymers for encapsulation of polyphenols in polymersomes, *C. Gomes, R. Dias, M.R. Costa*

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Adsorbent based on ZIF-8 for chiral separation in liquid chromatography, *C. Santana, T. Menezes, S. Egues, J. de Conto*

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Sequential photocatalysis-electro-Fenton process mediated with magnetic Fe-TiO₂ beads for the treatment of polluted effluents, *S. Rezgui, A.M. Díez, M. Pazos, M.Á. Sanromán, L. Monser, N. Adhoum*

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Calix[4]arene-Carbazole-containing polymers synthesis, properties and thin films as molecular sensors, *A.I. Costa, P.D. Barata, C.B. Fialho, J.V. Prata*

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New bicyclic fluorescent Calix[4]arene-Polymers for molecular sensing in fluid phase, *P.D. Barata, A.I. Costa, C.B. Fialho, J.V. Prata*

[P-IM07]

Functional bio-based polyurethane foams from industrial residues, *N. Gama, A. Ferreira, A. Barros*

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Incorporation of IL@ZIF-8 composites into Matrimid® 5218 to produce Mixed-Matrix Membranes for Gas Separation, *T. Ferreira, B. de Moura, L. Neves, J. Esperança, I. Esteves*

[P-IM09]

Chemical-physical study of ibuprofen incorporated into unmodified and modified mesoporous silicas: from matrix synthesis to drug release, *S. Inocêncio, I. Matos, F. Danède, A. Santos, J. Sotomayor, I. Fonseca, N. Correia, M. Dionísio, M. Corvo, T. Cordeiro*

[P-IM10]

Crosslinked starch/chitosan microparticles as reinforcement of thermoplastic corn starch, *D. Paiva, A.M. Pereira, A.L. Pires, J. Martins, L.H. Carvalho, F.D. Magalhães*

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Thermal properties and molecular interactions of alginate/gelatin hydrogel microparticles, *N. Pilipenko, G.D. Sorita, J. Pinto, I.P. Fernandes, O.H. Gonçalves, F.V. Leimann, M.F. Barreiro*

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Novel O/W green emulsions stabilized with nano-hydroxyapatite solid particles – Pickering emulsions, *A. Ribeiro, Y. Manrique, I.F.R. Ferreira, M.F. Barreiro, J.C.B. Lopes, M.M. Dias*

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Sorption of fluorinated greenhouse gases using fluorinated ionic liquids, *J.E. Sosa, R.P.P.L. Ribeiro, J.P.B. Mota, J.M.M. Araújo, A.B. Pereira*

[P-IM14]

New eco-sorbents for hydrogen sulphide removal from biogas, *E. Surra, M. Nogueira, M. Bernardo, I. Fonseca, I.A.A.C. Esteves, N. Lapa*

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Influence of the treatment of mesoporous silica surfaces in the release profile of a loaded drug, *R. Domingos, T. Cordeiro, I. Matos, J. Sotomayor, I.M. Fonseca, M.M. Cardoso, M. Dionísio, M.T. Viciosa*

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Silica aerogel reinforcement with different types of cellulose fibres, *A. Portugal, A. Romeiro, L. Durães*

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Selective recovery of platinum-group elements using Fe₃O₄@EG nanocomposites and their precursors, *F. Rocha, E. Pereira, T. Trindade, C.M. Silva, C.B. Lopes*

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A New Molybdenum Trioxide Hybrid Decorated by 3-(1,2,4-Triazol-4-yl)adamantane-1-carboxylic acid: a Promising Reaction-Induced Self-Separating Catalyst for Epoxidation, *P. Neves, A. Lysenko, G. Senchyk, K. Domasevitch, H. Krautscheid, A. Valente, I. Gonçalves*

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Ultralight microcellular polyurethanes for the production of technical footwear components, *H. Rafael, I.P. Fernandes, H.T. Gomes, V. Pinto, A. Fernandes, M.J. Ferreira, M.F. Barreiro*

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Stabilizing Simvastatin in the Amorphous State into Nanostructured Matrices, *A. Franco, T. Cordeiro, I. Matos, C.V. Pereira, J.C. Sotomayor, I.M. Fonseca, M.M. Cardoso, A. Matias, M. Dionisio, M.T. Viciosa*

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Use of ABES to evaluate the impact of chitosan solution on the cure of starch based resins, *M.L. Almeida, J. M. Martins, C. Coelho, F.M. Magalhães, L.H. Carvalho*

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BioFPro a web based software for correlation and prediction of biofuels properties, *A. Ferreira, N.M.C.T-Prieto, J. Granjo*

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Modified carbon nanotubes as alternative platforms for the adsorption of immunoglobulin G, *D. Castro, M. Neves, J.A.P. Coutinho, J. Faria, M. Freire, C. Silva, A. Tavares*

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Neon Adsorption on Metal-Organic Frameworks over wide Temperature and Pressure Ranges, *J. Barreto, M. Xavier, R. Ribeiro, D. Martins, I. Esteves, M. Branco, G. Bonfait, J. Mota*

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Titanium oxide-based materials for photo-catalysis of dyes and benzene, *M.R.F. Silva, M.A.O. Lourenço, D.M. Tobaldi, M.P. Seabra, P. Ferreira*

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Enantioselective separation of racemic mandelic acid using aqueous biphasic systems with chiral ionic liquids, *M. Kholany, F. Silva, T. Sintra, S. Ventura, J.A.P. Coutinho*

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Hydrogen Peroxide Oxidation of Potato Starch, *J.V. Barbosa, J. Martins, L.H. Carvalho, F.D. Magalhães, M.M.S.M Bastos*

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Development of acrylic/alkyd hybrid polymers, *S. Loureiro, J.V. Barbosa, J. Moniz, F.D. Magalhães, M.M.S.M. Bastos*

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Predicting paint composition from middle infrared spectra (FTIR), *M.J. Fernandes, F. Oliveira, J. Peres, F. Martins, M.M.S.M Bastos*

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Covalent Organic Frameworks as support for Ni nanocatalysts for CO₂ methanation, *L. Gonçalves, J. Sousa, S. Soares, Y. Kolenko, F. Pereira*

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Development of new lead-free medical X-ray protective clothing, *P. Ramalho, S. Soares, T. Pinto, A. Gonçalves, A. Barros, G. Santos, J. Morgado, C. Freire, C. Pereira, F. Pereira*

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Nanomaterials application in water disinfection for human consumption, *A.S.G.G. Santos, P.S.F. Ramalho, A.R. Lopes, A.G. Gonçalves, O.P.C. Nunes, M.F.R. Pereira, O.S.G.P. Soares*

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Valorization of wastes from pulp and paper industry: effect of distinct formulations and stabilization conditions in the properties of granules to be used as soil improvers, *N. Cruz, F. Silva, L. Tarelho, S. Rodrigues*

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Recovery of rare earths from natural waters using carbon-based nanomaterials, *C. Cardoso, E. Pereira,*

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Microencapsulation by spray coagulation method: study of the alginate crosslinking by different calcium salts, *D. Cuma, I.P. Fernandes, M.F. Barreiro*

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Emulsions preparation based on ternary phase diagrams: comparative study using two oils (Miglyol and Sweet Almond) with two distinct surfactants (Tween 80 and Saponin), *T. Schreiner, M. Dias, S. Pinho, M.F. Barreiro*

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The effect of treating the carbon supports on the copper electrocatalytic activity towards the electroreduction of CO₂, *N. Pereira, C.M.-Pedrero, A. Mendes*

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From Kinetics to Equilibrium Control in CO₂ capture columns using Encapsulated Ionic Liquids (ENILs), *C. Moya, R. Santiago, J. Lemus, D. Moreno, J. Palomar*

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New promising microporous niobium and vanadium silicates for mercury removal from aqueous solutions, *E. Fabre, A. Rocha, C.B. Lopes, C. Vale, C.M. Silva, E. Pereira*

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¹H NMR spectroscopy combined with partial least squares regression for predicting gasoline composition, *A.L. Leal, J.C. Ribeiro, A.M.S. Silva, F.G. Martins*

[P-MP02]

Modeling clathrate hydrate formation/inhibition using a modified CPA EoS, *A. Palma, A. Queimada, J.A.P. Coutinho* [P-MP02]

[P-MP03]

Heat exchanger network retrofit of an aromatics plant process unit using a hybrid methodology, *V.E. Araújo, F.P. Bernardo, C.M. Reis, F.G. Martins*

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Advanced multi-granularity analytics for industry 4.0, *M.S. dos Reis, T. Rato*

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Structured multiblock approaches for high-dimensional predictive modeling, *M.S. dos Reis*

[P-MP06]

Gas hydrates as a potential solution as carbon capture and storage technology, *M.F. Costa, C.M. Teixeira, R.J. Santos, M.M. Dias, J.C.B. Lopes*

[P-MP07]

Polymeric catalytic membranes for biodiesel production – Effect of the addition of k- carrageenan in PVA membranes, *R. Risso, M. Ventura, C. Duarte, I. Fonseca, J. Vital*

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(Nitro)Phenols reactivity in mixed acid benzene nitration, *D. Afonso, A. Ribeiro, P. Araújo, J. Vital, L.M. Madeira*

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Simulation, monitoring and diagnosis of faults and equipment degradation in chemical processes, *J. Sansana, M. Reis*

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Image-based process monitoring using multiscale and multivariate image analysis: A pilot scale implementation study and results, *E. Strelet, M. Reis*

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A coarse-grain computer simulation approach of triblock copolymers, *G. Pe.-Sanchez, F.A. Vicente, N. Schaeffer, S.P.M. Ventura, J.A.P. Coutinho*

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Galp's Sines Refinery Hydrogen Network Optimisation, *J.P. Marques, H. Matos, N. Oliveira, C. Nunes, A. Guerreiro, M. Prego*

[P-MP13]

Synthesis and characterization of Reactive Polyurethane hotmelt adhesives, *J.M. Martins, I.C. Cardoso, C. Esteves, M. Bastos, J. Fernandes, N. Pinho, M.F. Barreiro, F.D. Magalhães, L.H. Carvalho*

**Poster session | Multiscale and Multidisciplinary Engineering Education
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[P-ME01]

A simple laboratory approach for the determination and characterization of ternary phase diagrams for Chemical Engineering undergraduate students, *E.V. Capela, J.H.P.M. Santos, I.B.-Palheiros, J.A.P. Coutinho, S.P.M. Ventura, M.G. Freire*

[P-ME02]

Promoting an active learning in subjects of the Chemical Engineering degree, *E.J. González, I. Díaz, M. Rodríguez, M.G.-Miquel*

[P-ME03]

Exploring the non-ideal behavior of coiled and straight tubular reactors., *N.V. Gama, F.A. da Silva, I. Portugal*

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Pushing the dynamics and the outputs of laboratory courses, *A. B.-Timmons, F.A. da Silva*

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Contribution to Innovation in Chemical Engineering Education Using Online Resources, *A. Cardoso, M.G. Rasteiro*

[P-ME06]

Developing a framework for assessing the teaching effectiveness in Chemical Engineering education, *C. Miguel, C. Moreira, M. Alves, J. Campos, J. Glassey, E. Schaer, N. Kockmann, A. Porjazoska, M. Polakovic, L.M. Madeiral*