



## WCCE11 - 11th WORLD CONGRESS OF CHEMICAL ENGINEERING

IACCHE - XXX INTERAMERICAN CONGRESS OF CHEMICAL ENGINEERING  
CAIQ2023 - XI ARGENTINIAN CONGRESS OF CHEMICAL ENGINEERING  
CIBIQ2023 - II IBEROAMERICAN CONGRESS OF CHEMICAL ENGINEERING

Buenos Aires - Argentina - June 4-8, 2023

"The global chemical engineering working for a better future world"

### WCCE11-Area 1- CHEMICAL ENGINEERING SCIENCE

#### Preliminary technical program

Monday June 5, 2023. Oral presentations, Room 11

Thermodynamics		
9:00-9:15	2876	How to predict Hansen parameters using COSMO-RS Wojeicchowski, J.P., Ferreira, A.M., Okura, T., Rolemberg M.P., Mafra, M. and, <u>Coutinho, J.A.P</u>
9:15-9:30	2092	PC-SAFT investigation of the potential of some additives to inhibit the liquid-liquid phase separation between polyisobutene and hydrous ethanol <u>Lavrador, R.B.</u> , Pessôa Filho, P. A.
9:30-9:45	1502	Molecular dynamics predictions of dynamic viscosity for carbon dioxide hydrates under pre-nucleation conditions Guerra, A., Mathews, S., Maric, M., Servio, P, <u>Rey, A.D.</u>
9:45-10:00	1227	Crystallization of metal salts from Lithium-Ion Batteries multicomponent solutions: a thermodynamic study <u>A. Mazur</u> , F. Marques Penha
10:00-10:15	1589	Exergy analysis of membrane reactors for the simultaneous production of aniline and styrene Pujó, M.L., <u>Kingston, D.</u>
10:15-10:20	2759	Toward smart artificial neural network modelling for solubility prediction of CO2 solubility of pure and blended alkanolamines <u>Castro-Anaya, L.E.</u> , Gómez González, S.Y.
10:20-10:25	1698	Properties Estimation of Terpenes and Cannabinoids Using Machine Learning <u>Laura T. Lamprea</u> , Héctor J. Hortúa, Gustavo A. Orozco
10:25-10:30	Questions flash oral presentations	
10:30-11:00	Coffee Break and Posters Discussion	
Heat and mass transfer		
11:00-11:15	2878	Evaluation of Diffusion Coefficient of Ciprofloxacin at Infinite Dilution using Conductance Method Consigo, A.C., Enriquez, R.E, Martin, D.J.V., Resurreccion, M.Y.P., Somo, R.S.C., Valdeleon, S.I., Yecla, K.M.F., Rubi, R.V.C., Dugos, N.P., Soriano, A.N.
11:15-11:30	1525	Modeling of Pine Bark Drying Kinetics Meghirditchian, G., Zecchi, B.
11:30-12:30	Section Plenary Lecture: Solid liquid Separation of particulate slurries, Jan Baeyens.	
12:30-14:00	Lunch Interval	
Separation technologies		
14:00-14:30	2879	KEY NOTE: Reactive water sorbents for the sorption enhanced reverse water gas shift <u>Pieterse, J.A.Z.</u>
14:30-14:45	1269	A pressure recovery deswirlor for cyclone separators <u>Misiulia, D.</u> , Antonyuk, S.
14:45-15:00	1394	Density-based fractionation of lithium-ion battery materials in a centrifugal field as a novel approach in direct battery recycling <u>Yildiz, T.</u> , Gleiß, M., Nirschl H.



## WCCE11 - 11th WORLD CONGRESS OF CHEMICAL ENGINEERING

IACCHE - XXX INTERAMERICAN CONGRESS OF CHEMICAL ENGINEERING  
CAIQ2023 - XI ARGENTINIAN CONGRESS OF CHEMICAL ENGINEERING  
CIBIQ2023 - II IBEROAMERICAN CONGRESS OF CHEMICAL ENGINEERING

**Buenos Aires - Argentina - June 4-8, 2023**

*"The global chemical engineering working for a better future world"*

15:00-15:15	1785	Novel materials based on Ionic Liquids for CO <sub>2</sub> /CH <sub>4</sub> separation by using fixed bed columns	<u>Lemus, J.</u> , Hospital-Benito, D., El Bijou, R., Moya, C., Santiago, R., Belinchón, A., Hernández, E., Navarro, P., Palomar J.
15:15-15:30	1391	The influence of thermodiffusion in the modeling and optimization of diabatic distillation columns	<u>Pérez Raiden, S.A.</u> , Kingston, D.
15:30-15:35	1508	Renewable and thermoelectric biocarbon tubes for CO <sub>2</sub> capture in adsorption cycles	Araoz, M. E., Marcial, A. F., Trejo Gonzalez, J. A., <u>Avila, A. M.</u>
15:35-15:40	2501	New approach on stirred tank adsorption reactors: mathematical model development, operation, and comparison with other reactors	<u>Lacuesta, J.</u> , Tancredi, N., Gutiérrez, S.
15:40-15:45	2197	Fixed-bed column adsorption of tetracycline on effective mesoporous coconut shell adsorbent	<u>Manase A.</u> , Awal, A., Muibat Diekola, Y., Aisha Abubakar, F.
15:45-15:50	1975	Mathematical modelling applied to dynamic adsorption process	<u>Dima, J.B.</u> , Ferrari, M.A., Fiedorowicz Kowal, M., Mandelman, I., Zaritzky, N.E.
15:50-16:00	<b>Questions flash oral presentations</b>		
16:00-16:30	<b>Coffee Break and Posters Discussion</b>		
<b>Separation technologies</b>			
16:30-16:45	2032	Process for fractionation and purification of synthetic lubricants using liquefied CO <sub>2</sub> + propane as solvent	Pizzano, A., Rodríguez Reartes, B., <u>Hegel, P.</u>
16:45-17:00	2884	Sensitivity analysis of a control-oriented model of supercritical extraction	<u>Sliczniuk, O.</u> , Pekka, O., Corona, F.
17:00-17:15	2124	Continuous fractionation of tomato peel in subcritical and supercritical water	Leontijevic V., <u>Cantero D.</u> , Cocero M.J.
17:15-17:30	2202	Innovative strategy for extraction and purification of phenolic compounds using biphasic aqueous systems	Santos, A., Bjerk, T.R., Soares, C.M.F., <u>Lima, A.S.</u>
17:30-18:30	<b>Plenary Conference</b>		
18:30-19:30	<b>Posters Discussion</b>		



# WCCE11 - 11th WORLD CONGRESS OF CHEMICAL ENGINEERING

IACCHE - XXX INTERAMERICAN CONGRESS OF CHEMICAL ENGINEERING  
CAIQ2023 - XI ARGENTINIAN CONGRESS OF CHEMICAL ENGINEERING  
CIBIQ2023 - II IBEROAMERICAN CONGRESS OF CHEMICAL ENGINEERING

Buenos Aires - Argentina - June 4-8, 2023

"The global chemical engineering working for a better future world"

## WCCE11-Area 1- CHEMICAL ENGINEERING SCIENCE

### Preliminary technical program

Monday June 5, 2023. POSTERS SESSION

#### Thermodynamics

1429	Study of Vapor-Liquid-Liquid equilibrium for the system Propanol-Propyl Propanoate-Water	Velandía, J., Fonseca, J.D., Rodríguez, G., Gil, I.
1523	Phase equilibria of hydrocarbon mixtures using QMOM characterization and PC-SAFT	Oliveira, F.C., Lage, P.C.L., Couto, P.
1524	Van der Waals-Maxwell-Claapeyron model to predict the vapor pressure of pure substances less than 1 atm.	Córdova Villanueva, M. W.
1527	Modified Van der Waals equation using Maxwell's construction	Córdova Villanueva, M. W.
1528	Proposed model to predict the freezing point depression of CaCl <sub>2</sub> in water using the modified Debye Huckel equation	Córdova Villanueva, M. W.
1541	Simulation and exergy analysis of heat-integrated distillation columns for the separation of butane-propane and methanol-water mixtures	Torres, O.A., Pérez Raiden, S.A., Kingston, D
1777	Density, Speed of Sound and Viscosity of Binary Mixtures Containing Biofuels	Almeida, B.C., Torres, R.B.
1930	Evaluation of thermophysical properties of heterocyclic and polycyclic compounds for in situ upgrading applications	Riaño-Núñez, D., Ballesteros-Rueda, L., Guerrero-Amaya, H.
2033	CO <sub>2</sub> hydrogenation to methanol: Measurement and correlation of PVT data	Cotabarrén, N., Hegel, P., Pereda, S.
2036	High-pressure viscosity measurements of oily substrates saturated with CO <sub>2</sub>	Fortunatti-Montoya, M., Hegel, P., Pereda, S.
2040	Solubilities of Greenhouse Gas (CO <sub>2</sub> ) in Ionic Liquids (imidazolium) at high-pressures: Experimental measurement, Consistency and Thermodynamic modeling (EoS) / Prediction (COSMO-RS)	Nunes, M.C., de Carvalho, F.D., dos Santos, G.L., Freire, N.V., Arce, P.F.
2043	Multiphase equilibria behavior of {water + ethanol + ethyl palmitate} systems at 101.3 kPa: Experimental measurements, Consistency and thermodynamic modeling	Freire, N.V., das Neves, L.C., Lenharo, B., Silveira, M.C.B., Pires, J.L., Arce, P.F.
2068	Ternary liquid-liquid equilibria measurements and nrtl modelling for the (1-butyl-3-methylimidazolium chloride [bmim][cl] + butyl acetate + 1-butanol) system at 298.15 k	P. F. Arce, L. A. Gallo-García, C. H. Marciano, F. C. Biaggio, D. H. P Guimarães
2086	Poly (methyl methacrylate) foaming in scCO <sub>2</sub> and water	Redondo, A., Fernández, A.M., Martín-de-León, J., Cantero D.
2108	LLE, VLE and VLLE experimental measurements, test quality / consistency and thermodynamic modeling of {n-butyl acetate + 1-butanol + [EMIM][EtSO <sub>4</sub> ] } systems at 101,3 kPa	Freire, N.V., Noronha, P.B., Nunes, M.C., Arce, P.F.



## WCCE11 - 11th WORLD CONGRESS OF CHEMICAL ENGINEERING

IACCHE - XXX INTERAMERICAN CONGRESS OF CHEMICAL ENGINEERING  
CAIQ2023 - XI ARGENTINIAN CONGRESS OF CHEMICAL ENGINEERING  
CIBIQ2023 - II IBEROAMERICAN CONGRESS OF CHEMICAL ENGINEERING

Buenos Aires - Argentina - June 4-8, 2023

*"The global chemical engineering working for a better future world"*

2109	Vapor-liquid equilibrium for the alcohol + palmitate ester systems at atmospheric and sub-atmospheric pressures	Freire, N. V., Nunes, M. C., Arce, P. F.
2148	Thermodynamic modeling of polyols. A group-contribution approach for predicting phase behavior of mixtures comprising glycols and sugars	Sánchez, F.A., S. Pereda
2383	Phase equilibrium of water-free two-phase system based on polypropylene glycol + ionic liquids + alcohols at environmental conditions	Lima, T.S.P., Pinto, R.E.P., Souza, R.L., Soares, C.M.F., Lima, Á.S.
2391	Ethanol two-phase system based on protic ionic liquid as platform to purify tagitinin C from Thitonia diversifolia	Santos, J.P.J., Borges, M.M., Lima, T.S.P., Buarque, F.S., Soares, C.M.F., Bjerck, T.R., Lima, A.S.
2428	Esterification of alcohols: Chemical equilibrium prediction based on a homologous series approach	Sánchez, F.A., S. Pereda
2589	Ammonia synthesis from syngas: components and process analysis from a thermodynamic approach	Monsalve-Silva, S., Cobo, M., Sens, L., Sánchez, N.
2637	Isothermal compressibility of interfacial films containing SARA fractions	Neves, M., Gonçalves dos Santos, R.
2653	Effect of Salinity on the interfacial compressibility of Asphaltene Films	Maria, A.C.L., Maria, A.C.L., Gonçalves dos Santos, R.
2685	Using InGaAs sensors for monitoring phase transitions of complex systems	I. Fonseca Ventura, M. J. Amaral, D. Santos, G. R. Borges, E. Franceschi, M. Ferreira Mathias, S. Egues, C. Dariva
2806	Phase envelopes of multicomponent mixtures: From the simple to the complex	Benelli, F.E., Pisoni, G. O., Cisoni Duarte, M.
2817	Modelling of solid precipitation in waxy multicomponent synthetic systems with ideal solid solution model and RKPR	Quinzio, M.J., Rodriguez-Reartes, S.B., Cisoni-Duarte, M.
2819	Redlich-Kwong-Peng-Robinson equation of state, towards two decades of its development and evolution	Quinzio, M.J., Rodriguez-Reartes, S.B., Cisoni-Duarte, M.
2926	Extending an open source Python library: Computing ideal gas contributions Extending an open source Python library: Computing ideal gas contributions	Pitanga Marques, Rui; Benelli, Federico E.; Cisoni Duarte, Martin
2962	Liquid-liquid equilibrium of the DES + Li <sub>2</sub> SO <sub>4</sub> (CuSO <sub>4</sub> ) + H <sub>2</sub> O system at different temperatures	Aedo C. M., Jimenez Y. P.



# WCCE11 - 11th WORLD CONGRESS OF CHEMICAL ENGINEERING

IACCHE - XXX INTERAMERICAN CONGRESS OF CHEMICAL ENGINEERING  
CAIQ2023 - XI ARGENTINIAN CONGRESS OF CHEMICAL ENGINEERING  
CIBIQ2023 - II IBEROAMERICAN CONGRESS OF CHEMICAL ENGINEERING

Buenos Aires - Argentina - June 4-8, 2023

"The global chemical engineering working for a better future world"

## WCCE11-Area 1- CHEMICAL ENGINEERING SCIENCE

### Preliminary technical program

Tuesday June 6, 2023. Oral presentations, Room 13

Thermodynamics - Heat and mass transfer – Separation technologies			
9:00-9:15	1465	Beneficiation of limestone by reverse flotation	de Amores, I., <u>Seiler, S.</u> , Sánchez, G.
9:15-9:20	2737	Dynamic simulation and control of the CO <sub>2</sub> absorption in NaOH solution using AVEVA Process Simulation.	<u>Machado, V.S.S.</u> , Silva, C.A.M., Codolo, M.C.
9:20-9:25	1776	Modeling and simulation of the cannabinoid extraction process with supercritical CO <sub>2</sub>	<u>Arturo-Calvache, J.</u> , Sánchez-Correa, C., Paipa-Nausa, C., Ruda Hernández, N.
9:25-9:30	1789	D9-tetrahydrocannabinol remediation of Cannabis extracts	<u>Gallo-Molina, A.C.</u> , Sánchez-Correa, C.A., Gil-Chaves, I.D.
9:30-9:35	1758	Solvent selection for recovering added-value products from biomass pyrolysis aqueous phase: from in silico screening to process conceptual design.	<u>Lorenzo-Llanes, J.</u> , Rojas-Norambuena, J., Canales, R.I., Escalona, N
9:35- 9:50	Questions flash oral presentations		
9:50-9:55	2625	An alternative approach for gas hydrates: application to phase equilibria with presence of single-guest clathrate hydrates	Molina, M. J., <u>Porras-Giraldo, A.F.</u> , Rodríguez-Reartes, S.B, <u>Zabaloy, M.</u>
9:55-10:00	2409	Estimation of the permeability and structural parameters in thin-film composite membranes from Forward Osmosis	Reyes-Lombardo, S., Kruczek, B., <u>Thibault, J.</u>
10:00-10:05	2431	Development of a recirculation system for an industrial cyclone separator	<u>P. Kumar Nedumaran, D.</u> Misiulia, S. Antonyuk
10:05-10:10	1750	Recovery of phosphorus from wastewater treatment plants using crystallization of vivianite	Salman Amjad, <u>Haiyan Qu</u>
10:10-10:15	1408	Coupling spatial-temporal FTIR-ATR measurements with molecular dynamics approach to quantify the diffusion of pyro-oil into asphalt binders	<u>Arteaga-Pérez, L.E.</u> , Petit, K., Saavedra, J.H., Solar, C., Quezada, G.R., Norambuena-Contreras, J.
10:15-10:30	Questions flash oral presentations		
10:30-11:00	Coffee Break and Posters Discussion		
Fluid mechanics and transport phenomena. Micro and nano fluids			
11:00-11:15	1482	Calibrated microencapsulation of octyl salicylate by polyurea shell via microfluidics: releasing behaviors in water/ethanol solutions of different compositions	Canamas, P., <u>Du, J.</u> , Franco-Lage, G., Guichardon, P.
11:15-11:30	1567	Oil mist separation using coalescence filters – overcoming intrinsic operational problems by surface modification of fibrous media	<u>Krasiński, A.</u> , Stor, M., Gradoń, L.
11:30-11:45	2688	Clinical and forensic characterization of exhaled breath: Computational studies for the metrics of aerosol particle capture	<u>Malavé, V.</u> , Jeerage, K., Garboczi, E., and Lovestead, T.
11:45-12:00	2747	Pulsating electroosmotic flow of a structured fluid: Rheology of complex Fluids	<u>Herrera-Valencia, E.E.</u> , Sánchez-Villavicencio M.L., Soriano-Correa, C., Ramirez-Torres, L.A, Hernandez-Abad, V.J, Calderas, F.



## WCCE11 - 11th WORLD CONGRESS OF CHEMICAL ENGINEERING

IACCHE - XXX INTERAMERICAN CONGRESS OF CHEMICAL ENGINEERING  
CAIQ2023 - XI ARGENTINIAN CONGRESS OF CHEMICAL ENGINEERING  
CIBIQ2023 - II IBEROAMERICAN CONGRESS OF CHEMICAL ENGINEERING

Buenos Aires - Argentina - June 4-8, 2023

*"The global chemical engineering working for a better future world"*

12:00-12:30	<b>Posters Discussion</b>	
12:30-14:00	<b>Lunch Interval</b>	
	<b>Fluid mechanics and transport phenomena. Micro and nano fluids</b>	
14:00-14:15	2976	Vibro-fluidization of cohesive particles <u>Baeyens, J.</u> , Li, S., Dewil, R., Reyes-Urrutia, A., Mazza, G., Zhang, H., Deng, Y.
14:15-14:20	1415	Rheological effects of amino-functionalized graphene oxide suspensions on model yield stress fluid at different pHs <u>Moraes, L.R.C.</u> , Andrade, R.J.E., Ribeiro, H., Naccache, M.F.
14:20-14:25	1432	A new model for flow distribution in dual-cell density monolith substrates <u>Cornejo, I.A.</u> , Reinao, C.A.
14:25-14:30	2235	Building viscoelastic differential constitutive models using rheological data and flow simulation of molten HDPE in slit-die and cross-slot geometries <u>de Castro, A. M.</u> , Pereira, J.O., Calado, V. M. A., Secchi, A. R.
14:30-14:35	2859	Fluctuating Flexoelectric Membranes in Viscoelastic Media: Power Spectrum through Mechanical Network and Transfer Function Models Herrera-Valencia, E.E., <u>Rey, A.</u>
14:35-15:00	<b>Questions flash oral presentations</b>	
15:00-16:00	<b>Posters Discussion</b>	
16:00-16:30	<b>Coffee Break and Posters Discussion</b>	
16:30-17:30	<b>Plenary Conference</b>	
17:30-18:30	<b>Posters Discussion</b>	
<b>Congress Dinner</b>		



# WCCE11 - 11th WORLD CONGRESS OF CHEMICAL ENGINEERING

IACCHE - XXX INTERAMERICAN CONGRESS OF CHEMICAL ENGINEERING  
CAIQ2023 - XI ARGENTINIAN CONGRESS OF CHEMICAL ENGINEERING  
CIBIQ2023 - II IBEROAMERICAN CONGRESS OF CHEMICAL ENGINEERING

Buenos Aires - Argentina - June 4-8, 2023

"The global chemical engineering working for a better future world"

## WCCE11-Area 1- CHEMICAL ENGINEERING SCIENCE

### Preliminary technical program

*Tuesday June 6, 2023. POSTERS SESSION*

#### Separation technologies

1391	The influence of thermodiffusion in the modeling and optimization of diabatic distillation columns	<u>Pérez Raiden, S.A.</u> , Kingston, D.
1536	Preliminary evaluation of air classification equipment for the beneficiation of tungsten powders	Petit, H. A., Paulo, C. I., Achiorno D., Irassar E.F.
1591	Chitosan based adsorbent aerogels for water remediation purposes	Kloster, M., Mosiewicki, M.A., Marcovich, N.E
1723	Functionalized polymeric membranes applied to the treatment of solutions containing amoxicillin	Grigoletto, L.C., Spaciari, A.C., Gomes, M.C.S., Ferrari-Fiorentin, L.D., Sipoli, C.C, Seixas, F.L.
1745	Production and application of polymeric membranes MOF functionalized with MOF HKUST-1 in the removal of ibuprofen from aqueous solution	Gomes, M.C.S., Spaciari, A.C., Grigoletto, L.C., Seixas, F.L., Fiorentinferrari, L.D.
1945	D9-tetrahydrocannabinol separation of Cannabis Sativa extracts	<u>Gallo-Molina, A.C.</u> , Sánchez-Correa, C.A., Gil-Chaves, I.D.
2050	The mathematical model for evaluation of a spray tower for sulfur dioxide removal	Silva, T., Codolo, M.C.
2152	Enhanced distillation process intensification for the recovery of pure solvents in a hexane-ethanol-water mixture.	Balardo, F., Gross, M.S.
2177	Beer dealcoholization by hybrid nanofiltration/distillation process	Figueroa Paredes, D.A., Sánchez, R.J., Laoretani, D.S. Espinosa, J.
2357	Toluene recuperation from a ternary mixture of Toluene-Ethanol-Water via heterogeneous azeotropic distillation	Latini Spahn, S.N., Gross, M.S.
2441	Synthesis of monolithic silica aerogel for CO <sub>2</sub> adsorption at high pressures	Silva, T.L., Oliveira, M.R., Menezes, T.R., Santos, K.C., Klebson, S.S., Barros, V.A., Melo, D., Borges, G.R., Dariva, C., De Conto, J.F., Egues, S.M.
2525	Analysis of the contributions of different Deep Eutectic Solvents (DES) on surface tension for bioactive extraction	Santos, V.C.S. 1, Machado, M.E.C., Gonçalves, J.M.S., Nunes, L.G., Santos, W.G., Nascimento, J.R.L., Lima, A.S., Soares, C.M.F., Souza, R.L.
2530	Gasification of residual biomass for hydrogen production	Moreno, J., Ramirez, M., Pinto,



## WCCE11 - 11th WORLD CONGRESS OF CHEMICAL ENGINEERING

IACCHE - XXX INTERAMERICAN CONGRESS OF CHEMICAL ENGINEERING  
CAIQ2023 - XI ARGENTINIAN CONGRESS OF CHEMICAL ENGINEERING  
CIBIQ2023 - II IBEROAMERICAN CONGRESS OF CHEMICAL ENGINEERING

Buenos Aires - Argentina - June 4-8, 2023

*"The global chemical engineering working for a better future world"*

		M.V., Sanchez, N., Cobo, M.
2563	A reliable methodology for the determination of transport parameters in the design of fixed bed adsorbers	Bidabehere, C.M., García, J.R., Sedran, U.
2673	A design of a purification system for b-valerolactone from levulinic acid hydrogenation: Separation process desing	Quiroga, E., Casas, P., Berendt, S., Moltó, J., Sánchez, N., Cobo, M.
2676	Particle size distributions of magnesium precipitates from solutions with different Mg/Li ratios	Alemán, A.D., Bertin, D.E., Piña, J.
2757	Removal of cadmium and zinc by modified residual biomass of banana and orange	Mamani, C.K., Alemán, D., Miranda, A, Ortega, A., Coronado, E.A., Pérez, G.B.
2913	Effect of pretreatment on the supercritical CO2 extraction yield of microalgae lipids: experimental data and modelling	Cofré, J., Moyano, C., Núñez, G.
3103	Recovery of Ni by sulfidation from spent catalyst and influence of coexisted chelate agent on the precipitate and its surface structure	wai, H., Ishii, S., Oyama, K., Fuchida, S., Takahashi, Y., Yokota, N., Tokoro, C.

### Heat and mass transfer

1546	Mass transfer phenomena for erythrosine and red gardenia dyes in cherries ( <i>Prunus avium</i> ): influence of temperature on effective diffusion coefficients	González Pacheco, J.I., Maldonado, M.B.
1641	Assessment of drying temperature in the diffusivity parameter in the mathematical modeling of wheat seed drying	Aranha, A.C.R., Defendi, R.O., Jorge, L.M.M.
1842	Influence of the moisture content and the apparent dry specific weight on soil-cement-ash mixture	Gonçalves, G., Lascosk, L., Martins Teixeira de Abreu Pietrobelli, J., Ribeiro Lautenschläger, C., E. Giovanetti Canteri, M.H., Tusset, A.M.
1984	Evaluation of the deposition of salts in cooling tower fills	Silva, A.F., Fernandes, H.L.S., Pessoa, F.P
2658	Effective thermal conductivity of citrus residues: estimation by neural models and experimental data	Sousa, R.C., Costa, A.B.S., Perazzini, M.T.B., Perazzini, H.
2903	Causes and consequences of Biofouling in Nuclear Power Plant's Condenser cooled with Natural Waters	Kinbaum, A., Chocron, M., Arias, M.J.
2953	Optimal Temperature Profile for Methanol Synthesis from Green Hydrogen	Cornejo, I.A., Silva, O.B

### Fluid mechanics and transport phenomena. Micro and nano fluids

1662	Computational Fluid Dynamics simulation on the thermal and hydrodynamic behavior of a SiO <sub>2</sub> – H <sub>2</sub> O nanofluid in the transition flow regime	Torrentes-Espinoza, G.
1828	Vibration analysis as a non-invasive method for studying hydrodynamic cavitation-Fenton coupled system based on chaos theory	Fleite, S.N., Napoleone, S., García, A. R., Ayude, A., Cassanello, M.C





## WCCE11 - 11th WORLD CONGRESS OF CHEMICAL ENGINEERING

IACCHE - XXX INTERAMERICAN CONGRESS OF CHEMICAL ENGINEERING  
CAIQ2023 - XI ARGENTINIAN CONGRESS OF CHEMICAL ENGINEERING  
CIBIQ2023 - II IBEROAMERICAN CONGRESS OF CHEMICAL ENGINEERING

Buenos Aires - Argentina - June 4-8, 2023

*"The global chemical engineering working for a better future world"*

2323	Series-Parallel Double Pipe Heat Exchangers Fouling Estimation using CFD	Jia-En Xie, Jia-Lin Kang, Cheng-Huang Chou, Yuan Yao, David Shan-Hill Wong
2504	Dormancy break of forage legume seeds by surface modification in a photochemical fluidised bed	Moreira, M. I. R. ,Barbosa, A. P. M., Barros, L. M., Born, D., Rodrigues, G.M., Lenzi, A. K., Kessler, F., Felipe, C. A. S.
2844	Numerical evaluation of erosion wear and pressure drop in different decoke line layouts	Ritta, A.G.S.L., Almeida, T.R., Almeida, G.P.V. Lima, E.V.