

# IX ARBOCAT

9th INTERNATIONAL  
SYMPOSIUM ON CARBON  
FOR CATALYSIS

28-30 JUNE  
2022  
ZARAGOZA  
SPAIN





## CONFERENCE VENUE AND WELCOME RECEPTION

**Paraninfo of University Zaragoza**

Pza. Basilio Paraíso, 4



## GALA DINNER

**Hotel NH Collection Gran Hotel**

c) Joaquín Costa, 5



**CONFERENCE BOOK OF ABSTRACTS**



		JUNE 27, MONDAY	JUNE 28, TUESDAY	JUNE 29, WEDNESDAY	JUNE 30, THURSDAY
9:00	9:20		Opening		
9:20	9:40		PL1 (Liming Dai)	PL3 (Martin Muhler)	PL4 (Petra de Jongh)
9:40	10:00				
10:00	10:20			OC10	OC21
10:20	10:40		OC1	OC11	OC22
10:40	11:00		OC2	OC12	OC23
11:00	11:20		Coffee Break	Coffee Break	Coffee Break
11:20	11:40		OC3	OC13	OC24
11:40	12:00		OC4	OC14	OC25
12:00	12:20		OC5	OC15	OC26
12:20	12:40		KN1 (Rosa Arrigo)	KN2 (De Chen)	KN4 (Adrian Silva)
12:40	13:00				
13:00	13:20		Lunch Break	Lunch Break	Lunch Break
13:20	13:40				
13:40	14:00				
14:00	14:20				
14:20	14:40			KN3 (Pham-Huu)	OC27
14:40	15:00		PL2 (Robert Schlögl)		OC28
15:00	15:20			OC16	OC29
15:20	15:40		OC6	OC17	OC30
15:40	16:00		OC7	OC18	OC31
16:00	16:20		OC8	OC19	Coffee Break
16:20	16:40		OC9	OC20	OC32
16:40	17:00		Flash-poster	Flash-poster	OC33
17:00	17:20				OC34
17:20	17:40		Poster session		OC35
17:40	18:00			Poster session	Closing ceremony
18:00	18:20	Registration			
18:20	19:00		Social Event		
19:00	19:20	Welcome reception			
19:20	20:00				
20:30					Conference dinner

### **Instructions for the different presentations**

**Plenary presentation:** duration 60 minutes

**Keynote presentation:** duration 40 minutes

**Oral presentation:** duration 15 minutes presentation plus 5 minutes questions.

Presentation in windows compatible software (power point, pdf...)

**Flash-poster:** duration 4 minutes presentation plus 1-minute questions

Presentation of 1 or few pages on the screen using windows compatible software (power point, pdf...)

**Poster:** size of the poster A0

Monday, 27 June 2022	
18:00 h	Registration
19:00 h	Welcome reception

Tuesday, 28 June 2022	
9:00 h	Opening
9:20 h	<b>PL1: Liming Dai (University of New South Wales)</b> Carbon-based metal-free electrocatalysis for efficient energy conversion and storage.
10:20 h	<b>Session 1: Novel synthesis methods and characterisation</b> <b>OC1.</b> Sophie Hermans (UCLouvain) Carbon coating by (alumino-)silica for producing stable and bifunctional catalysts active in biomass valorization reactions
10:40 h	<b>OC2.</b> Vera Giulimondi (ETHZurich) Atomically precise design of bimetallic Au and Pt-Ru low nuclearity catalysts via carbon host functionalization
11:00 h	Coffee Break
11:20 h	<b>OC3.</b> Krzysztof Kruczała (Jagiellonian University) Quantifying the impact of the electric conductivity of mesoporous carbon and the ORR performance by means of a noncontact microwave cavity perturbation measurement
11:40 h	<b>OC4.</b> Eleonora Vottero (UNITo) Modifications of Activated Carbons upon metal nanoparticles deposition and oxidation: an Inelastic Neutron Scattering and DFT study
12:00 h	<b>OC5.</b> Michael Poschmann (MPI-CEC) Low Amounts of Transition Metals Incorporated in N-Doped Carbons and their Effect on Materials Characteristics and Catalytic Properties
12:20 h	<b>KN1: Rosa Arrigo</b> N-doped carbon supported metal systems for catalysis: in situ dynamics to inform materials design
13:00 h	Lunch break
14:20 h	<b>PL2: Robert Schlögl (Max Planck Institute)</b> Concepts in Carbocatalysis: A Tribute to the Late Dangsheng Su
15:20 h	<b>Session 2: Electrocatalysis</b> <b>OC6.</b> Laura Álvarez (ICB-CSIC) Catalysts based on Fe-N-C on carbon xerogels for fuel cells
15:40 h	<b>OC7.</b> Rafael Morais (U. Porto) Investigation of Fe,Co,N-doped carbon nanotubes as bifunctional oxygen electrocatalysts under application oriented conditions
16:00 h	<b>OC8.</b> Saskia Heumann (MPI-CEC) Carbon-based electrode - feasibility and mechanistic insights

16:20 h	<b>OC9.</b> Felix Herold (TU-Darmstadt) A Black Mirror: In situ DRIFT Spectroscopy on Carbon-based Catalysts
16:40	Flash-posters
17:20 h	Poster session
18:20 h	Social Event

Wednesday, 29 June 2022	
9:00 h	<b>PL3: Martin Muhler (RUB)</b> Carbon Materials Applied in Redox Catalysis
	<b>Session 3: Fine chemistry</b>
10:00 h	<b>OC10.</b> Laura Prati (UniMi) An insight into the role of reactant structure effect in pd/c catalyzed aldehyde hydrogenation
10:20 h	<b>OC11.</b> Juan José Villora-Picó (U. Alicante) Co Nanoparticles on N-doped Carbons as Catalysts for the Selective Hydrogenation of 4-Nitrostyrene
10:40	<b>OC12.</b> Ivan Surin (ETHZuricht) Performance descriptors of nanostructured carbon-supported metal catalysts for acetylene hydrochlorination
11:00 h	Coffee Break
11:20 h	<b>Session 4: Biomass conversion</b>
	<b>OC13.</b> Morawa Eblagon (U. Porto) Influence of the type of acidic sites in bifunctional Nb <sub>2</sub> O <sub>5</sub> /carbon catalysts on cascade conversion of glucose to 5-(hydroxymethyl)furfural
11:40 h	<b>OC14.</b> Maurizio Pagano (IMDEA) Propelling fine chemicals production in continuous catalytic pyrolysis over activated biochar
12:00 h	<b>OC15.</b> Harry Bitter (WUR) Synthesis of carbon-supported bimetallic MoW-carbide catalysts: towards property performance relationships in deoxygenation
12:20 h	<b>KN2: De Chen</b> Synthesis and applications of single and clusters of metals on N and P doped carbon
13:00 h	Lunch break
14:20 h	<b>KN3: Cuong Pham-Huu</b> Induction Heating: an Enabling Technology for the Heat Management in Catalytic Processes
15:00 h	<b>Session 5: Biomass conversión 2</b>
	<b>OC16.</b> Monica Pazos Urrea (NTNU)

	Aqueous-phase reforming of ethylene glycol over carbon nanofiber-supported catalysts
15:20 h	<b>OC17.</b> Svetlana Ivanova (U. Sevilla) Selective hydrodeoxygenation of levulinic acid over Ru supported on functionalized carbon nanofibers
15:40 h	<b>OC18.</b> Marlene Fuhrer (WUR) Balancing hydrogenation power and oxophilycity in carbon supported mixed metal-carbides for deoxygenation of stearic acid
16:00 h	<b>OC19.</b> Stefano Cattaneo (UniMi) The nature of active sites in pd/c-catalysed hydrogenation/hydrodeoxygenation reactions
16:20 h	<b>OC20.</b> Esther Frecha (ICB-CSIC) High hexitols selectivity by one-pot cellulose conversion over Ni/CNF catalysts: a global picture addressing the involved factors
16:40	Flash-posters
17:40 h	Poster session

Thursday, 30 June 2022	
9:00 h	<b>PL4: Petra de Jongh (U. Utrecht)</b> Carbon supports as key tool to prepare and understand metal hydrogenation catalysts
10:00 h	<b>Session 6: H<sub>2</sub> and hydrocarbon synthesis 1</b> <b>OC21.</b> Enrico Lepre (MPIKG-MPG) Ni-Based Electrocatalysts for Unconventional CO <sub>2</sub> Reduction Reaction to Formic Acid
10:20 h	<b>OC22.</b> Nienke L. Visser (U. Utrecht) Impact of carbon support functionalization on the stability of supported nickel catalysts in CO <sub>2</sub> methanation
10:40 h	<b>OC23.</b> Agata Łamacz (U. Wrocław) DRM over CNT supported bimetallic catalysts
11:00 h	Coffee Break
11:20 h	<b>Session 7: H<sub>2</sub> and hydrocarbon synthesis 2</b> <b>OC24.</b> Pilar Tarifa (U. Brandenburg) One-pot Cu/cellulose derived carbon catalysts for the reverse water gas shift reaction
11:40 h	<b>OC25.</b> Fernanda Fontana (I.P. Bragança) Biphasic oxidative denitrogenation with H <sub>2</sub> O <sub>2</sub> of a simulated fuel using sustainable carbon nanotube catalysts
12:00 h	<b>OC26.</b> Juan José Delgado (U. Cádiz) Hydrogen production by photocatalytic ethanol photoreforming using carbon-titania hybrid nanomaterials

12:20 h	<b>KN4: Adrian Silva (U. Porto)</b> Carbon catalysts for advanced water treatment
13:00 h	Lunch break
14:20 h	<b>Session 8: Photocatalysis and environmental applications</b> <b>OC27.</b> José Luis Hueso (U. Zaragoza) Novel approaches for the synthesis of carbon nanodots and their application in photocatalysis
14:40 h	<b>OC28.</b> Joana Lopes (U. Porto) Carbon nitride photocatalysts for visible light selective oxidative coupling of amines
15:00 h	<b>OC29.</b> Sergio Morales Torres (U. Granada) Graphitic carbon nitrides from different precursors as photocatalysts for the removal of 5-fluorouracil
15:20 h	<b>OC30.</b> Salomé Soares (U.P) Degradation of Volatile Organic Compounds from Gaseous Streams by Fenton's Oxidation over Activated Carbon-based Catalysts
15:40 h	<b>OC31.</b> Josephus G. Buijnsters (TUDelft) Boron-doped diamond electrodes for diverse electrocatalytic applications: glucose sensing and PFAS remediation
16:00 h	Coffee Break
16:20 h	<b>Session 9: Environmental applications</b> <b>OC32.</b> Bruno Esteves (U.Porto) Tuning of olive stone-based Fe-catalysts for olive mill wastewater oxidation in a continuous fixed-bed reactor
16:40 h	<b>OC33.</b> Dydia Gonzalez (UAMadrid) Effect of natural water ions on the nitrate reduction using a Pd-Cu catalyst
17:00 h	<b>OC34.</b> Claire Leishman (U. Edinburgh) Mn-based catalysts supported on carbon xerogels for selective catalytic reduction of NO <sub>x</sub> by ammonia
17:20 h	<b>OC35.</b> Verónica Torregrosa Improving the performance for NO <sub>2</sub> -assisted diesel soot oxidation of BaMnO <sub>3</sub> and BaMn <sub>0.7</sub> Cu <sub>0.3</sub> O <sub>3</sub> -based catalysts using carbon black during sol-gel synthesis
17:40	Closing ceremony
20:30	Conference dinner



## **Flash-posters**

### ***Tuesday***

- **FP1.** Paulina Jagódka, Agata Łamacz

*The impact of synthesis method on the catalytic performance of hkust-1/go*

- **FP2.** Javier Navarro-Ruiz, Iker del Rosal, Iann C. Gerber

*Computational design of supported metal nanoparticles and single atom catalysts on carbon materials*

- **FP3.** A Martin, G Martinez, F Luna, R Mallada, J L Hueso, R Luque and J Santamaria.

*Laser-assisted chemistry to design advanced single-atom carbon-based catalysts for li-ion storage system*

- **FP4.** Suzan E. Schoemaker, Tom A.J. Welling, Dennie F.L. Wezendonk, Krijn P. de Jong, Petra E. de Jongh

*Carbon-supported ni-cu catalysts to grow carbon nanostructures by methane decomposition*

- **FP5.** Aleksander Ejsmont, Pawel Stelmachowski, Joanna Goscianska

*Tuning the composition and properties of mil-88a-derived carbon with rod-like morphology*

- **FP6.** Jhonny Correa, Michael A. Vega, Nilo Robles, Edwin Albacura, Elvia V. Cabrera, Humberto González, Yonathan J. Parra, Ullrich Stahl, Joan Manuel Rodriguez-Díaz.

*Remediation of soils contaminated with cd: characterization of biochar from cocoa shell obtained via microwave assisted pyrolysis*

### ***Wednesday***

- **FP7.** Marta Stucchi, Maela Manzoli, Silvio Bellomi, Filippo Bossola, Alberto Villa and Laura Prati

*Carbon-supported Mo-Pt catalysts for biomass hydrogenation*

- **FP8.** Javier Remón\*, Marina Casales, Jesús Gracia, Elba Ochoa, María S. Callén, José Luis Pinilla, Isabel Suelves

*Production of liquid biofuels and value-added chemicals by hydrodeoxygenation of bio-oil -over a Mo<sub>2</sub>C/CNF catalyst*

- **FP9.** Nicolás Villanueva, Cinthia Alegre, Nataly Orozco, María J. Lázaro

*On the importance of the carbon structure in carbon-manganese oxide composites as bifunctional oxygen catalysts*

- **FP10.** Manuel Gutiérrez-Roa, Sara Pérez-Rodríguez, David Sebastián, Luzía Lascorz, Miguel Fantova, María J. Lázaro

*CuPt catalysts supported onto carbon materials for CO<sub>2</sub> electroreduction*

- **FP11.** Gebrehiwet Abrham Gebreslase, David Sebastián, María Victoria Martínez-Huerta, Tanya Tsoncheva, B. Tsyntsarski, G. Georgiev, María Jesús Lázaro  
*CoFe encapsulated in P, N co-doped carbon foam as an advanced electrocatalyst for oxygen evolution reaction*
- **FP12.** Laura Barberis, Remco Dalebout, Nienke L. Visser, Joseph A. Stewart, and Petra E. de Jongh  
*Manganese oxide as a promoter for supported copper catalysts in CO<sub>2</sub> and CO hydrogenation*
- **FP13.** Liliana P. L. Gonçalves, Jerrick Mielby, O. Salomé G. P. Soares, I. Lebedev, Juliana P.S. Sousa, Dmitri Y. Petrovykh, M. Fernando R. Pereira, Søren Kegnæs, Yury V. Kolen'ko  
*Mechanistic insights into the CO<sub>2</sub> methanation reaction on CeO<sub>2</sub> and carbon-CeO<sub>2</sub> supported Ni nanocatalysts*
- **FP14.** C.S.D. Rodrigues, E.F.S. Sampaio, O.S.G.P. Soares, M.F.R. Pereira, L.M. Madeira  
*Treatment of gaseous stream containing toluene by Fenton's oxidation using carbon-coated monoliths*
- **FP15.** A. Sofia G. G. Santos, João Restivo, Carla A. Orge, M. Fernando R. Pereira, O. Salomé G. P.  
*Influence of active metal phase distribution on bromate catalytic reduction with macrostructured catalysts*
- **FP16.** Fatemeh Sadegh, Nikolaos Politakos, Estibaliz Gonzalez de San Roman, Oihane Sanz, Ali Reza Modarresi-Alam, Radmila Tomovska  
*Reduced graphene oxide/magnetic nanoparticles for the contaminants degradation in water*
- **FP17.** Maria A. Barros, Catarina L. Seabra, Maria J. Sampaio, Cláudia Nunes, Cláudia Silva, Salette Reis, Joaquim L. Faria  
*Photocatalytic self cleaning and antimicrobial activity of carbon nitride coated cotton textile*
- **FP18.** Lucília S. Ribeiro\*, José J.M. Órfão, M. Fernando R. Pereira  
*Giving a new life to forestry and agricultural wastes*

## **Posters**

### ***Tuesday session***

#### **Synthesis methods and characterisation**

- **P1.** Elena Montejano Nares, Peter Sutter, Francisco Ivars-Barceló  
*Epitaxial graphene as ultimate model catalyst support to study cluster size-dependant activity reactions*
- **P2.** Felix Herold, Magnus Rønning  
*Gasification-assisted Heteroatom Doping: A Broadly Applicable Post-Synthesis Doping Strategy with Minimal Impact on Carbon Properties*
- **P3.** Guilong Lu, Julia Büker, Baoxiang Peng, Tim Herrendorf, Wolfgang Kleist, Martin Muhler  
*Synthesis of 3D Macroporous Carbon-Supported Single Atom Catalysts and Their Application in Cyclohexene Oxidation*
- **P4.** Joanna Goscianska, Aleksander Ejsmont, Stefan Wuttke  
*Morphology control of MOF-derived carbon materials*
- **P5.** Daniel Torres, José Luis Pinilla, Isabel Suelves  
*Synthesis of carbon nanofilament-derived graphene materials*
- **P6.** Karolina Kadela, Dominik Maj, Magdalena Lofek, Aleksander Ejsmont, Gabriela Grzybek, Termeh Darvishzad, Joanna Goscianska, Andrzej Kotarba, Pawel Stelmachowski  
*Oxidative plasma pretreatment of ordered mesoporous carbon for ultralow loading oxygen evolution electrocatalysts*
- **P7.** Riccardo Zema, Diógenes H. Piva, Juliana P.S. Sousa  
*Immobilization of Carbon Material on Ceramic Porous Membrane via Click-Chemistry*
- **P8.** A. Maroto-Valiente, C.A. Blanco-Camus, A.I. Mártir Bueno, E.M. Mesa-Bribián, J. Alvarez-Rodríguez,  
*Incorporation of halogenated groups in high surface area graphite*
- **P9.** Anna Olejnik, Joanna Goscianska  
*Mesoporous carbon materials modified with fumaric acid and iron(III) chloride - optimization of the synthesis procedure*
- **P10.** Xuan Trung Nguyen, Monica Pazos Urrea, Marcello Marelli, Filippo Bossola, Magnus Rønning, Vladimiro Dal Santo, Claudio Evangelisti  
*Metal vapor synthesis derived *pt* and *pt-mn* catalysts for aqueous phase reforming of glycol ethylene*
- **P11.** Clara Carrera, Javier Hernández-Ferrer, José Miguel González-Domínguez, Alejandro Ansón-Casaos, Ana M. Benito, Wolfgang K. Maser, Enrique García-Bordejé\*  
*Aerogels de grafeno como catalizador y electrocatalizador estructurado*

- **P12.** F. Cazaña, W. Henao, P. Tarifa, N. Latorre, J.J. Delgado, M.A. Centeno, E. Romeo, A. Monzón  
*Development of GICs-derived catalysts and their application in the synthesis of graphene-related materials.*
- **P13.** Carlos G. Díaz-Maroto\*, Blanca S. de Miera, Patricia Pizarro, David P. Serrano, Inés Moreno, Javier Feroso  
*NOx removal from air by activated biochars from different biomass feedstocks*
- **P14.** Brent Daelemans, Wim Dehaen, Steven De Feyter  
*Carbocatalysis with Pristine Graphite: On-Surface Nanochemistry Assists Solution-Based Catalysis*
- **P15.** P. Tarifa, C. Megías-Sayago, F. Cazaña, M. González-Martín, N. Latorre, E. Romeo, J. J. Delgado, A. Monzón  
*Highly active Ce- and Mg-promoted ni catalysts supported on cellulose-derived carbon for low-temperature co2 methanation*

## Electrocatalysts

- **P16.** Aldona Kostuch, Joanna Gryboś, Zbigniew Sojka, Krzysztof Kruczała, Marcin K. Surówka, Szymon Wierzbicki  
*The impact of carbon support on the electrocatalytic activity of spinel catalysts in the oxygen reduction reaction in an alkaline media*
- **P17.** Rafael G. Morais, Natalia Rey-Raap, José Luís Figueiredo, M. Fernando R. Pereira  
*Synergy between cobalt oxides and iron phthalocyanine on carbon nanotubes as bifunctional oxygen electrocatalysts*
- **P18.** S. Pérez-Rodríguez, G. García, E. Pastor, M.J Lázaro  
*Copper-based electrocatalysts supported on carbon for the electrochemical reduction of CO2*
- **P19.** Aleksandra E. Grzelak\*, Nathalie Job  
*Silver-palladium electrocatalysts deposited on Carbon Xerogels for Direct Borohydride Fuel Cells*
- **P20.** Soroosh Saedi \*, Claudio Evangelisti, Filippo Bossola, Marcello Marelli, María Jesús Lázaro, Vladimiro Dal Santo  
*Facile and efficient synthesis of bimetallic Ni-Fe oxide and Ni-Fe hydroxide nanoparticles supported on carbon black Vulcan XC-72 for the oxygen evolution reaction*

- **P21.** Alberto Rodríguez-Gómez, Enrico Lepre, Luz Sánchez-Silva, Nieves Lopez-Salas, Ana Raquel de la Osa  
*Exploring noble carbons as a catalytic support for the ethanol electro-oxidation process*
- **P22.** Javier, Hernández-Ferrer\*, Clara Carrera, Ana Benito, Wolfgang K. Maser, Enrique García-Bordejé  
*Oxygen reduction reaction by cobalt dispersed on carbon nanostructured materials*
- **P23.** Ana L. Vieira, Rui S. Ribeiro\*, Raquel P. Rocha, Manuel F.R. Pereira  
*Noble metal-free hollow carbon spheres as electrocatalysts for the oxygen reduction reaction*
- **P24.** J.L. Diaz de Tuesta\*, S. Diaz-Rullo, A. Cruz del Álamo, M.I. Pariente, R. Molina, F. Martínez  
*Electrocatalyst based on pressurized carbon black with PTFE for the production of hydrogen peroxide*

## H<sub>2</sub> and hydrocarbons

- **P25.** Paulina Jagódka, Joanna Oczeretko, Agata Łamacz  
*HKUST-1/GO modified with CeO<sub>2</sub> for catalytic CO<sub>2</sub> conversion*
- **P26.** Zongkun Chen, Michael Poschmann, Natalia Kowalew, Marius Heise-Podleska, Tobias Stamm, Robert Schlögl, Saskia Heumann  
*Ammonia decomposition over transition-metal/carbon catalyst for on-site generation of hydrogen*
- **P27.** José Luis Santos, Estela Ruiz López, Maria Isabel Domínguez, Svetlana Ivanova, Miguel Ángel Centeno and José Antonio Odriozola  
*Hydrogen yield improvement via pH control in the reaction of formic acid dehydrogenation*
- **P28.** J.L. Santos, S. Ivanova, L.M. Martínez T., M.A. Centeno\* and J.A. Odriozola  
*Understanding the effect of palladium size on formic acid dehydrogenation*
- **P29.** N. Martín-Rodríguez, M. Yruela-Garrido, E. Castillejos\*, J. M. Conesa, A.B. Dongil, I. Rodríguez-Ramos, A. Guerrero-Ruiz  
*Dehydration of formic acid over Ti oxide-graphite catalysts*
- **P30.** Mikel Imizcoz\*, Fernando Almazán, Raúl Rodríguez, Amaya Echarte, Ismael Pellejero and Luis M. Gandía.

*Bimetallic MOF-derived catalysts for photo-thermal CO<sub>2</sub> hydrogenation to CH<sub>4</sub>.*

- **P31.** Enqi Bu\*, Xiaowei Chen, Antonio Monzón, Carlos López-Cartes, Javier Martínez-López, Jose María Rodríguez-Izquierdo, Juan José Delgado\*

*Efficient photoreforming hydrogen production over g-C<sub>3</sub>N<sub>4</sub>/TiO<sub>2</sub> 2D/2D composite photocatalyst*

- **P32.** A. Ansón-Casaos\*, J. Hernández-Ferrer, M. Lira-Cantú, A.M. Benito, W.K. Maser

*Photoelectrocatalytic water splitting on carbon dot/titania electrodes with methanol oxidation*

- **P33.** L. Florentino-Madiedo, M.F. Vega\*, E. Díaz-Faes, C. Barriocanal

*Evaluation of water splitting efficiency of gCNs thermally etched/exfoliated under air and CO<sub>2</sub> atmospheres*

### **Wednesday session**

#### **Fine Chemistry**

- **P34.** J.M.Conesa\*, M.V. Morales, N- García-Bosch, A. Guerrero-Ruiz, I. Rodríguez-Ramos

*Evaluation of carbon supported heteropoly acids for their application as catalysts in the 1-butanol dehydration reaction*

- **P35.** E. Pires, J.M. Fraile, M. Frias, E. García-Bordejé

*Sulfonated hydrothermal carbon coating on graphite felts as a structured reactor for glycerol valorization under flow conditions*

- **P36.** Marina Godino-Ojer\*, Vanessa Ripoll Morales, Antonio J. López Peinado, I. Matos, María Bernardo, Isabel M. Fonseca, Elena Pérez-Mayoral

*Carbon materials from tires involved in the green synthesis of benzodiazepines*

- **P37.** Marina Godino-Ojer, Sergio Morales-Torres, Francisco J. Maldonado-Hódar, Elena Pérez-Mayoral\*

*Towards selective synthesis of quinoxalines by using transition metals-doped carbon aerogels*

- **P38.** Joanna Goscianska\*, Aleksander Ejsmont, Aleksandra Galarda, Jacek Grams

*Silver nanoparticles supported on mesoporous carbons for liquid phase oxidation of styrene*

- **P39.** Edgar S. Duran-Uribe\*, Enrique V. Ramos-Fernández, Antonio Sepúlveda-Escribano

*Microwave-Assisted Synthesis of CoxP@C catalysts for the Selective Hydrogenation of Nitroarenes to Anilines*

- **P40.** Flávia K. K. Sanches, Fernanda F. Roman\*, Adriano S. Silva, Jose L. Diaz de Tuesta, Adrián M. T. Silva, Joaquim L. Faria, Bruno F. Machado, Philip Serp, Pricila Marin, Helder T. Gomes.

*Selective oxidation of 4-nitrophenol with H<sub>2</sub>O<sub>2</sub> in a biphasic system by janus-like carbon nanotubes*

- **P41.** M. Dolores González, Anna Casadó, Anies Rösch, Alejandro Uribe, Aroldo J. Romero, Joan Carvajal, Yolanda Cesteros\*

*Acid-modified mesoporous carbons with hierarchical structure obtained from almond shells to be applied as catalysts for different reactions of interest*

- **P42.** J.M. Fernández-Morales, A.B. Dongil, E. Castillejos-López, E. Asedegbega-Nieto\*, A. Guerrero-Ruiz, I. Rodríguez-Ramos

*Auto-generated Mo carbides supported over carbon materials with applicability for 1-butene isomerization-oligomerization*

- **P43.** Marina Godino-Ojer, Vanessa Ripoll Morales, Luisa M. Pastrana-Martínez, Francisco J. Maldonado-Hódar, Elena Pérez-Mayoral\*

*Green synthesis of benzodiazepines promoted by ZnO-based carbon catalysts*

- **P44.** Mieczysław Kozłowski\*, Karolina Ptaszyńska, Anna Malaika

*Plastic waste-derived solid acid catalysts for the production of fuel enhancers by glycerol esterification*

- **P45.** Mieczysław. Kozłowski\*, Magdalena Kapska, Anna Malaika

*Processing of glycerol to valuable chemicals in the presence of modified carbons as catalysts*

## **Biomass conversion**

- **P46.** Jaro Richard Rensch, Luisa M. Pastrana-Martínez, Sergio Morales-Torres, Francisco J. Maldonado-Hódar

*Hybrid carbon/metal oxide/pt catalysts for the continuous hydroconversion of furfural in gas phase at mild conditions*

- **P47.** Alejandro Ayala-Cortés, Daniel Torres\*, Heidi Isabel Villafán-Vidales, Pedro Arcelus-Arrillaga, Patrick U. Okoye, Camilo Alberto Arancibia-Bulnes, Adriana Longoria, J. L. Pinilla, I. Suelves

*Upgrading of solar bio-oils through catalytic hydrodeoxygenation*

- **P48.** Javier Remón\*, Raquel Sevilla-Gasca, Esther Frecha, José Luis Pinilla, Isabel Suelves

*Production of value-added liquid compounds by hydrothermal hydrogenation of almond hulls over a Ru/CNF catalyst*

- **P49.** Fernando Bimbela, Alfonso Cornejo, Karina Hablich, Maitane Maisterra, Rui Moreira, Víctor Martínez-Merino and Luis M<sup>a</sup> Gandía

*Mo<sub>2</sub>C supported on activated charcoal as catalyst for the reductive catalytic fractionation (RCF) of poplar sawdust.*

- **P50.** Albert Miró i Rovira, Petter Tingelstad, Kishore Ranjendran, Felix Herold, Adrian M. Lager, Kumar R. Rout, De Chen\*

*Evaluation and suppression of coke formation for beech wood bio-oil upgrading at mini-pilot plant scale*

- **P51.** M.V. Morales\*, J.M. Conesa, A. Guerrero-Ruiz, I. Rodríguez-Ramos  
Ni-based catalysts for the ring rearrangement of HMF in water: effect of the support nature and the reagent purity

- **P52.** Elodie Blanco,\* Claudio Contreras, Ana Belen Dongil, Néstor Escalona  
*Hydrodeoxygenation of guaiacol on MOP catalysts supported over graphite: effect of Mo/P ratio*

- **P53.** M.V. Morales\*, J.M. Conesa, A.J. Galvin, A. Guerrero-Ruiz, I. Rodríguez-Ramos  
*Hydrogenation and ring rearrangement of 5-HMF over Cu and Ni catalysts in water. effect of Cu and Ni combination*

- **P54.** Ana B. Dongil\*, D.Carrales-Alvarado, Claudio Contreras, Néstor Escalona, Inmaculada Rodríguez Ramos  
*Furfural hydrogenation in water using molybdenum carbide supported on carbon materials.*

- **P55.** Claudio C. Díaz\*, Inmaculada Rodríguez Ramos, Ana B. Dongil, Néstor Escalona  
*Jet-Fuel synthesis through aldol condensation and hydrogenation with transition metal carbides supported on MWCNT*

- **P56.** Silvia Parrilla-Lahoz, Ana B. Dongil,\*Laura Martínez-Quintana , Laura Pastor-Pérez , Tomás R. Reina



*H<sub>2</sub>-free HDO over Ni-based nitrogen/zirconia doped carbon supported catalysts*

- **P57.** M. Andrades, G. Delgado, C.E. Bounoukta, S. Ivanova, M.I. Domínguez, L.M. Martínez T, M.A. Centeno\*

*N-doped carbon xerogels for HMF production*

- **P58.** Ch. E. Bounoukta, S. Ivanova\*, F. Ammari, A. Penkova, M.A. Centeno and J.A. Odriozola

*Co-catalyst effect of calcium chloride and sulfonated activated carbons in the dehydration of glucose to HMF*

## Environmental applications

- **P59.** Bruno M. Esteves,\* Sergio Morales-Torres, Francisco J. Maldonado-Hódar, Luis M. Madeira

*Enhanced fenton-like degradation of phenolic contaminants by carbon-supported Fe-Mn catalysts prepared from olive stones*

- **P60.** S.N.A. Aziz, O.S.G.P. Soares\*, M.F.R. Pereira, L.M. Madeira, C.S.D. Rodrigues  
*Tailored Carbon Materials as Activators of Persulfate for p-Nitrophenol Removal*

- **P61.** Patrícia S. F. Ramalho\*, O. Salomé G. P. Soares, M. Fernando R. Pereira.  
*Study of activated carbon chemical surface modification in the catalytic reduction of NO by carbon based catalysts*

- **P62.** Sanchis, J. J. Rodríguez, A. F. Mohedano, E. Díaz  
*N-doped activated carbon as support of bimetallic catalyst on the nitrate catalytic reduction*

- **P63.** Carla A. Orge \*, João Restivo, A. Sofia G. G. Santos, M. Fernando R. Pereira, O. Salomé G. P. Soares

*Organic pollutants degradation by catalytic ozonation over ceria – carbon nanotubes composites*

- **P64.** D.T. González, A. Marí, J.A. Baeza\*, L. Calvo, M.A. Gilarranz  
*Influence of bicarbonate in drinking water on the catalytic nitrate reduction using carbon black supported Pd-Cu catalyst*

- **P65.** Lorena T. Pérez-Poyatos, Luisa M. Pastrana-Martínez, Sergio Morales-Torres, Francisco J. Maldonado-Hódar  
*Iron-based catalysts for the removal of cytostatic drugs by the photo-fenton process*

- **P66.** Lucas F. Sanches, Adriano S. Silva,\* , Fernanda F. Roman, Jose L. Diaz de Tuesta, Fernando A. da Silva, Ana I. Pereira, Adrián M. T. Silva, and Helder T. Gomes.

*Degradation of paracetamol by wet peroxide oxidation using carbon nanotubes synthesized from plastic solid waste*

- **P67.** Adriano S. Silva\*, Adriano Henrique, Jose L. Diaz de Tuesta, Jan Gläsel, Bastian J. M. Etzold, Jose A. C. Silva, and Helder T. Gomes

*Influence of acid and urea functionalization of carbonaceous catalyst in the efficiency of paracetamol degradation by wet peroxide oxidation*

- **P68.** Arnaldo V. Dias, Adriano S. Silva, Ana P. Ferreira, Fernanda F. Roman, Jose L. Diaz de Tuesta,\* Jessica R. Oliveira, Ana M. Ferrari, Giane G. Lenzi, and Helder T. Gomes

*Simultaneous removal of o- and p-nitrophenol from contaminated water by wet peroxide oxidation using carbon-coated magnetic ferrite as catalyst*

- **P69.** M. Isabel San-Martín\*, Raúl M. Alonso, Francisco Ivars-Barceló, Antonio Morán, Raúl Mateos

*Arsenic removal from water using anaerobic biofilms grown on carbon fibers bioanode*

- **P70.** Lucía Rossi, Sergio Morales-Torres, Luisa M. Pastrana-Martínez, Paula I. Villabrille, Janina A. Rosso, Francisco J. Maldonado-Hódar

*Enhanced visible-light photocatalytic degradation of erythromycin by Pd/graphene oxide-TiO<sub>2</sub> composites*

- **P71.** J.E. Castanheiro, P.A. Mourão

*Esterification of acetic acid with isoamyl alcohol over activated carbons*