



## COLLOQUIUM PROGRAM



**5<sup>th</sup> International Colloquium  
Energy and Environmental Protection  
November 9<sup>th</sup>- 10<sup>th</sup> 2023, Ploiești, Romania**

**ICEEP 2023**



## Thursday 9 November 2023

<b>9.00 - 9.15</b>	<b>REGISTRATION OF THE COLLOQUIUM PARTICIPANTS</b>	
<b>9:15 – 9:30</b>	<b>Colloquium Opening/Welcome Message</b>	<b>Assist. prof. Loredana Negoită</b> Dean of the Petroleum Refining and Petrochemistry Faculty Petroleum Gas University of Ploiești <b>Prof. Diana Cursaru</b> Chairman of the Scientific and Technical Board Petroleum Gas University of Ploiești
<b>9:30 – 10:00</b>	<b>Fuel multidimensionality, similarity and property prediction</b> Associate Prof. PhD. Eng. Simon Blakey – University of Birmingham, UK	
<b>10:00 - 10:30</b>	<b>UK Sustainable Aviation Fuel Mapping and Optimization</b> Ehsan Alborzi – University of Sheffield, UK	
<b>10:30 – 11:00</b>	<b>Application of zeolite for the improvement of aviation fuel thermal oxidative stability</b> Dr. Xue Yong – University of Sheffield, UK	
<b>11:00 - 11:30</b>	<b>COFFEE BREAK</b>	
<b>11:30 - 12:00</b>	<b>Water recycle and reuse within circular economy principles</b> Prof. PhD. Eng. Ștefan Voicu – National University for Science and Technology Politehnica Bucharest	
<b>12:00 - 12:30</b>	<b>Atomatically precised cluster catalysts for sustainable processes</b> Dr. Noelia Barrabes, Technische Universitat Wien, Austria	
<b>12.30 – 13.15</b>	<b>Innovation and Sustainability at BASF</b> Ilya Maksimov, Senior Technical Sales Manager – Refining Catalysts - BASF	
<b>13.30 - 14.30</b>	<b>LUNCH BREAK</b>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p><b><u>SECTIONS: CHEMICAL ENGINEERING AND GREEN CHEMISTRY, FUEL &amp; ALTERNATIVE FUELS</u></b>  <b>Chairman:</b>            Prof. PhD. Eng. Cursaru Diana  <b>Assist.:</b>            Eng. Băjan Marian            Room F.A.1</p> </div> <div style="width: 48%;"> <p><b><u>SECTIONS: ENVIRONMENTAL PROTECTION &amp; LUBRICATING OILS AND TRIBOLOGY</u></b>  <b>Chairman:</b>            Prof. PhD. Eng. Stănică Ezeanu Dorin  <b>Assist.:</b>            PhD. Eng. Matei Dănuța            Room I.P.6</p> </div> </div>		
<b>14:30 - 14:45</b>	<b>Biodegradable food packaging based on polylactic acid and lignin</b> Dușescu-Vasile Cristina Maria <sup>a*</sup> , Alecu David-Alexandru <sup>a</sup> , Bomboș Daniel <sup>b</sup> , Cuc Stanca <sup>d</sup> , Moldovan Andrei <sup>c</sup> , Bomboș Dorin <sup>a,b</sup> <sup>a</sup> Petroleum-Gas University of Ploiești, Romania, <sup>b</sup> S.C. Medacril S.R.L., <sup>c</sup> Technical University Of Cluj-Napoca., <sup>d</sup> “Raluca Ripan” Institute Of Research In Chemistry, “Babes Bolyai” University	<b>Synthesis of novel <i>n</i>-donor linker for metal-organic frameworks (MOFS)</b> Diandra Gheorghe <sup>a*</sup> , Nicoleta Sandu <sup>b</sup> , Anamaria Hanganu <sup>b,c</sup> , Anca G. Mirea <sup>d</sup> , Mihaela Matache <sup>b</sup> , Codruța C. Popescu <sup>b</sup> , Dragoș Ciuparu <sup>a</sup> <sup>a</sup> Petroleum-Gas University of Ploiești, Romania; <sup>b</sup> University of Bucharest, Romania; <sup>c</sup> “C. D. Nenitzescu” Institute of Organic and Supramolecular Chemistry of the Romanian Academy,



		<sup>d</sup> National Institute of Material Physics, Romania.
<b>14:45 - 15:00</b>	<b>Amine gas purification units design using the new computer package PIGASOS</b> Lattas Spyridon PhD Refinery Engineer, Free Lancer, Greece	<b>Visible-light-driven oxygen-and-phosphorous co-doped polymeric g-C<sub>3</sub>N<sub>4</sub> composites for degradation of RhB.</b> Usman Abubakar Katsina <sup>ab</sup> , Cursaru Diana-Luciana <sup>a</sup> , Mihai Sonia <sup>a</sup> , Matei Danuta <sup>a</sup> <sup>a</sup> Petroleum-Gas University of Ploiești, Romania, <sup>b</sup> Bayero University Kano, Nigeria
<b>15:00 – 15:15</b>	<b>New synthesized materials based on ZnO nanoparticles with applications in protective coatings</b> Șomoghi Raluca <sup>a, b</sup> , Purcar Violeta <sup>b</sup> , Ioana Cătălina Gifu <sup>b</sup> , Augusta Raluca Gabor <sup>b</sup> <sup>a</sup> Petroleum-Gas University of Ploiești, Romania <sup>b</sup> R&D National Institute for Chemistry and Petrochemistry-ICECHIM	<b>Natural Clay and Modified Orange Peel Waste For Alizarin Yellow R Dye Removal From Wastewater</b> Andreea Bondarev, Sonia Mihai, Cătălina Călin, Elena-Emilia Sîrbu Petroleum-Gas University of Ploiești, Romania
<b>15:15 - 15:30</b>	<b>Propylene-Propane Separation by Membranes</b> Neagu Mihaela, Movileanu Daniela - Luminița, Stan Simion Petroleum-Gas University of Ploiești, Romania	<b>Enhancing Rubber Devulcanization with Synthesized Adsorbents</b> Vasilievici Gabriel <sup>a</sup> , Mîrț Andreea-Luiza <sup>a*</sup> , Ghimiș Simona-Bianca <sup>a</sup> , Zaharia Emilian <sup>b</sup> , Mariana Mihaela Bomboș <sup>b</sup> , Dorin Bomboș <sup>b,c</sup> <sup>a</sup> National Institute for Research & Development in Chemistry and Petrochemistry—ICECHIM, Bucharest, Romania <sup>b</sup> Atica Chemicals S.R.L., Râmnicu Vâlcea, România <sup>c</sup> Petroleum-Gas University of Ploiești, Romania
<b>15:30 – 15:45</b>	<b>Complex columns system applied to the cumene process separation system</b> Fendu Elena Mirela Petroleum-Gas University of Ploiești, Romania	<b>Biodegradable bilayer film based on PLA plasticized in the presence of acetins and essential oils</b> Joe Andreea-Cătălina <sup>a</sup> , Dușescu-Vasile Cristina Maria <sup>a*</sup> , Bomboș Daniel <sup>b</sup> , Doukeh Rami <sup>a</sup> , Moldovan Andrei <sup>c</sup> , Onuțu Ion <sup>a</sup> <sup>a</sup> Petroleum-Gas University of Ploiești, Romania, <sup>b</sup> S.C. Medacril S.R.L, <sup>c</sup> Technical University of Cluj-Napoca
<b>15:45 - 16:00</b>	<b>Studies regarding the slow pyrolysis of reed</b> Băjan Marian, Dușescu-Vasile Cristina Maria, Mihai Sonia Petroleum-Gas University of Ploiești	<b>The influence of the application of electrical desorption on soil nutrient content</b> Popa Maria Petroleum-Gas University of Ploiești, Romania
<b>16:00 – 16:15</b>	<b>Pt-BiFeO<sub>3</sub>-embedded O-doped g-C<sub>3</sub>N<sub>4</sub>: A step-scheme heterostructured photocatalyst with superior visible-light performance on dye mineralization</b>	<b>Photocatalytic Degradation of Methylene Blue over Ru-ZnO/SBA-15 catalyst</b> Matei Dănuța <sup>a</sup> , Usman Abubakar Katsina <sup>ab</sup> , Cursaru Diana-Luciana <sup>a</sup> , Mihai Sonia <sup>a</sup> ,



Usman Abubakar Katsina<sup>ab</sup>, Cursaru Diana-Luciana<sup>a</sup>, Mihai Sonia<sup>a</sup>, Matei Dănuța<sup>a</sup>  
<sup>a</sup>Petroleum-Gas University of Ploiești, Romania, <sup>b</sup> Bayero University Kano, Nigeria

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<sup>b</sup> Bayero University Kano, Nigeria

16:15 - 16:30

**Green chemistry in organic and inorganic synthesis - techniques and examples**

Bogdan- Cătălin Serban<sup>a,b\*</sup>, Octavian Buiu<sup>a</sup>, Vlad Diaconescu<sup>c</sup>, Marius Bumbac<sup>d,f</sup>, Cristina Mihaela Nicolescu<sup>f</sup>, Mihai Brezeanu<sup>g</sup>, <sup>a</sup> IMT Bucharest, <sup>b</sup> Zentiva S.A.,<sup>c</sup> University of Medicine and Pharmacy "Carol Davila" Bucharest, <sup>d</sup> Valahia University of Targoviste, Faculty of Sciences and Arts, <sup>f</sup> Valahia University of Targoviste, Institute of Multidisciplinary Research for Science Technology, <sup>g</sup>University Politehnica of Bucharest

**A screening of the hydrogen sulfide levels in Ploiești city, Romania**

Stancu (Sanda) Mia Nuța, Onuțu Ion<sup>a</sup>  
Petroleum-Gas University of Ploiești, Romania

16:30 - 17:00

**COFFEE BREAK**

17:00 – 17:15

**Sustainability of biodiesel production and usage: The case of Romania**

Stănică-Ezeanu Dorin, Păunescu Loredana  
Petroleum-Gas University of Ploiești,

**Resistive sensing mechanisms of functionalized carbon nanohorns and their nanohybrid/nanocomposite: relative humidity, ethanol and nitrogen dioxide study cases**

Bogdan-Cătălin Serban<sup>a,b\*</sup>, Octavian Buiu<sup>a</sup>, Vlad Diaconescu<sup>c</sup>, Marius Bumbac<sup>d,f</sup>, Cristina Mihaela Nicolescu<sup>f</sup>, Mihai Brezeanu<sup>g</sup>, <sup>a</sup> IMT Bucharest, <sup>b</sup> Zentiva SA, 50, Theodor Pallady, <sup>c</sup>University of Medicine and Pharmacy "Carol Davila",<sup>d</sup> Valahia University of Targoviste, Faculty of Sciences and Arts, <sup>f</sup> Valahia University of Targoviste, Institute of Multidisciplinary Research for Science Technology, <sup>g</sup> University Politehnica of Bucharest

17:15 - 17:30

**Ethylbenzene dehydrogenation to styrene: an exploration for a simplified model of the adiabatic catalytic reactor and its solution**

Liviu Filotti, Daniela Movileanu  
Petroleum-Gas University of Ploiești, Romania

**Screening behavioral responses of certain microorganisms to CBM toxic used in military and law enforcement operations**

Viorel Gheorghe, Cătălina Gabriela Gheorghe  
Petroleum-Gas University of Ploiești, Romania



17.30-17.45	<p><b>Fossil fuel use – an effective cause of climate change?</b> Bogatu Liana Petroleum-Gas University of Ploiești, Romania</p>	<p><b>Facile synthesis of TiO<sub>2</sub> nanowires decorated with gold nanoparticles in microwave field for photocatalytic degradation of methylene blue</b> Sonia Mihai, Cursaru Diana, Andreea Bondarev, Usman Abubakar, Matei Danuta Petroleum-Gas University of Ploiești, Romania</p>
17.45-18.00	<p><b>Tehno-economic assessment of biogas upgrading processes</b> Nicolae Marilena Petroleum-Gas University of Ploiești, Romania</p>	<p><b>Preliminary experimental studies regarding the identification and characterization of some oil residues/waste stored in refineries' storage lagoons in Romania</b> Mihaela Tita, Ion Onuțu, Daniel Tita Petroleum-Gas University of Ploiești, Romania</p>
18.00-18.15	<p><b>Sustainable aviation fuel from hydroconversion safflower oil</b> Dragomir Raluca Elena, Țepeluș Alexandru, Borcea Anca Petroleum-Gas University of Ploiești, Romania</p>	<p><b>The performance of different carbon-based nanoparticles as additives in different base oils (mineral and vegetable) and oil blends</b> Nasr Jack, Cursaru Diana Petroleum-Gas University of Ploiești, Romania</p>
18.15-18.30	<p><b>Techno-economic analysis of upgrading light olefins into a high-quality gasoline blendstock</b> Salim Nassreddine, Aznive Biouni-Akrian Lebanese University, Lebanon</p>	<p><b>Study regarding enhancement of antiwear properties of a bio-grease, by using carbon nanomaterials based additives</b> Micu Iuliana, Nasr Jack, Cursaru Diana Petroleum-Gas University of Ploiești, Romania</p>
18.30-18.45		<p><b>The influence of the synthesis techniques on the nitride coatings</b> Giagkas Nikolaos<sup>a*</sup>, Vizireanu Sorin<sup>b</sup>, Cursaru Diana-Luciana<sup>a</sup> <sup>a</sup>Petroleum-Gas University of Ploiești, Romania, <sup>b</sup> INFLPR Măgurele, Romania</p>
19.00	<p><b>Festive Dinner Event – CENTRAL HOTEL</b></p>	