



16th INTERNATIONAL CONFERENCE ON CARBON DIOXIDE UTILIZATION

SCIENTIFIC PROGRAM



August 27th – 30th

Convention Center of Senai Institute of Green Chemistry

Rio de Janeiro – Brazil

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Institutional Support



Program Grid

Time	Monday 27/8	Tuesday 28/8				Wednesday 29/8			Thursday 30/8		
8:00-9:00		Registration				Registration			Registration		
9:00-9:20		PL 2				PL 3			PL 4		
9:20-9:40		P. Jessop				M. North			H. Pastore		
9:40-10:00											
10:00-10:20	Registration and Welcome Brunch	Coffee break				Coffee break			Coffee break		
10:20-10:40		OP 1	OP 7	KN 1	Industry CO ₂ Util. Session	OP 35	OP 41	KN 4	KN 7	OP 73	OP 77
10:40-11:00		OP 2	OP 8	OI		OP 36	OP 42	AB	AS	OP 74	OP 78
11:00-11:20		OP 3	OP 9	OP 12		OP 37	OP 43	OP 45	OP 71	OP 75	OP 79
11:20-11:40		OP 4	OP 10	OP 13		OP 38	OP 44	OP 46	OP 72	OP 76	OP 80
11:40-12:00		OP 5	OP 11	OP 14		OP 39	KN 5	OP 47	Closing ceremony		
12:00-12:20	OP 6		OP 15	OP 40		PS	OP 48				
12:20-12:40	Opening										
12:40-13:00		Lunch				Lunch					
13:00-13:20	PL 1 M. Aresta										
13:20-13:40											
13:40-14:00											
14:00-14:20	Round Table CO ₂ and Sustainability	Poster session 1				Poster session 2					
14:20-14:40		OP 16	KN 2	OP 21	OP 49	OP 52	OP 57				
14:40-15:00		OP 17	AP	OP 22	OP 50	OP 53	OP 58				
15:00-15:20		OP 18	OP 19	OP 23	OP 51	OP 54	OP 59				
15:20-15:40	Bus transfer	KN 3	OP 20	OP 24	KN 6	OP 55	OP 60				
15:40-16:00	Excursion to Maracanã Stadium	VT		OP 25	XG	OP 56	OP 61				
16:00-16:20		Coffee break				Coffee break					
16:20-16:40											
16:40-17:00											
17:00-17:20	Return to hotel	OP 26	OP 29	OP 32	OP 62	OP 65	OP 68				
17:20-17:40		OP 27	OP 30	OP 33	OP 63	OP 66	OP 69				
17:40-18:00		OP 28	OP 31	OP 34	OP 64	OP 67	OP 70				
18:00-18:20											
18:20-18:40											
18:40-19:00											
19:00-20:00						Congress Dinner					
20:00-21:00											
21:00-22:00											

Thermal and catalytic conversion; Photo and electrochemical conversion; Biotechnological conversion; CO₂ Capture; CO₂ as working agent; Policy, regulation, LCA;

Industry perspective on CO₂ utilization

Monday, August 27th

Morning

Time (am)	Entrance Hall
10:00-12:20	Registration and Welcome Brunch
12:20-13:00	<i>Opening Ceremony</i>
	Prof. Claudio Mota – Chair of ICCDU XVI
	Prof. Chushan Song – President of the ISC
	Prof. Victor Teixeira – President of SBCat (<i>in memoriam</i>)
	Dr Paulo Roberto Furio – General Manager of SENAI Innovation Institutes British Government Representative

Afternoon

Time (pm)	Auditorium 1/2
1:00-2:00	<i>PL - 1</i>
	<i>Carbon Recycling for a Circular Economy</i>
	Prof. Michele Aresta – University of Bari (Italy)
	<i>Chair-person:</i> Claudio J. A. Mota
2:00-3:40	Auditorium 1/2
	<i>Round Table</i>
	<i>CO₂ Utilization and Sustainability</i>
	Prof. Chushan Song – Pennsylvania State University (USA)
	Dr. Chistopher Gutler – Covestro (Germany)
	Dr. Ricardo Vieira Araujo – MCTIC (Brazil)
	<i>Moderator:</i> Prof. Claudio J. A. Mota
3:40-4:00	<i>Bus transfer to Maracanã Stadium</i>
4:00-5:40	<i>Visit to Maracanã Stadium</i>
5:40 – 6:40	<i>Return to the hotel</i>

Tuesday, August 28th

All day long

Time	Entrance Hall
8:00am-5:00pm	Registration

Morning

Time (am)	Auditorium 1/2
9:00-10:00	<i>PL - 2</i>
	<i>Green Chemistry Made Possible by Carbonated Water</i>
	Prof. Philip Jessop – Queen’s University (Canada)
	<i>Chair-person: Antônio Fidalgo</i>
10:00-10:40	Coffee Break Room
	<i>Coffee Break</i>

Tuesday, August 28th

Morning

Time (am)	Auditorium 2
	Thermal and Catalytic Conversion of CO₂ into Fuels and Chemicals
	<i>Chair-persons:</i> Rita Maria Alves de Brito and Sang Eon-Park
10:40-11:00	<i>OP – 1</i>
	ID 37: Influence of Interaction between Copper and Iron on Catalytic Performance over Supported Catalysts for CO ₂ Hydrogenation
	Junhui Liu, Xinwen Guo, Chunshan Song – Dalian University of Technology (China) and Pennsylvania State University (USA)
11:00-11:20	<i>OP – 2</i>
	ID 87: CO ₂ valorization by chemical storage of renewable energy in "decarbonated" methanol and dimethyl ether
	Valentin L'Hospital, Qian Jiang, Arno Lalaut, Christophe Serra, Anne-Cécile Roger, Benoit Loius, Ksenia Parkhomenko – University of Strasbourg (France) and Dalian Institute of Chemical Physics (China)
11:20-11:40	<i>OP – 3</i>
	ID 78: Optimized process chain for resource efficient methanol synthesis accompanied by Life Cycle Assessment
	Nathanael Ko, Aleksandar Lozanovski, Michael Held – University of Stuttgart and Fraunhofer Institute for Building Physics (Germany)
11:40-12:00	<i>OP – 4</i>
	ID 132: Methanol production via CO ₂ hydrogenation optimization using response surface methodology
	Aroonsri Nuchitprasittichai, Prapatsorn Borisut - Suranaree University of Technology (Thailand)
12:00-12:20	<i>OP – 5</i>
	ID 138: Conversion of CO ₂ to Methanol on Cu/Zn/Zr, Pd/Zn/Zr or Cu/Zn/Zr+Pd/Zn/Zr catalysts
	Cassia S. Santana, Alisson H M. da Silva, Ernesto A. Urquieta-Gonzalez, José M. Assaf, Janaína F. Gomes, Federal University of São Carlos (Brazil)
12:20-12:40	<i>OP – 6</i>
	ID 120: Understanding the Role of Solvent in the Hydrogenation of Carbon Dioxide Using Molecular Catalysts
	Aaron M. Appel, Samantha A. Burgess, Alexander J. Kendall, David R. Tyler, Eric S. Wiedner, John C. Linehan - Pacific Northwest National Laboratory and University of Oregon (USA)

Tuesday, August 28th

Morning

Time (am)	Room 1/2
	CO₂ Capture Processes
	<i>Chair-persons:</i> Célia Ronconi and Alissa Park
10:40-11:00	<i>OP – 7</i>
	ID 51: Fluorite-perovskite-molten carbonates dense membrane for CO ₂ separation at high temperatures, process enhanced by surface and composition modifications
	O. Ovalle-Encinia, P. Sánchez-Camacho, J. Ortiz-Landeros, H. Pfeiffer – National Autonomous University of Mexico and National Polytechnical Institute (Mexico)
11:00-11:20	<i>OP – 8</i>
	ID 32: Effect of Flue Gas Impurities on the CO ₂ Uptake of Superbase Ionic Liquids
	A. Greer, S.F.R. Taylor, J. Jacquemin, C. Hardacre - Queen's University Belfast and University of Manchester (UK), University François Rabelais (France)
11:20-11:40	<i>OP – 9</i>
	ID 46: Potassium Tethered Carbons with Unparalleled Adsorption Capacity and Selectivity for Low-Cost Carbon Dioxide Capture from Flue Gas
	Hongyu Zhao, Nannan Sun, Wei Wei, Yuhan Sun - Shanghai Advanced Research Institute, Shanghai University, Shanghai Tech University and Institute of Urban Environment (China)
11:40-12:00	<i>OP – 10</i>
	ID 142: CO ₂ capture over molecular basket sorbent: Promotion effect of aminopropyltriethoxysilane
	Xiaoxing Wang, Chunshan Song - Pennsylvania State University (USA)
12:00-12:20	<i>OP – 11</i>
	ID 159: CCUS in sugarcane ethanol mills: the way to make biofuels still more sustainable
	Antônio Djalma N Ferraz Júnior, Claudio Oller, Javier Escobar, Vanessa Pecora Garcilasso, Marilin Mariano, Suani Coelho – Brazilian Bioethanol Science and Technology Laboratory and University of São Paulo (Brazil)

Tuesday, August 28th

Morning

Time (am)	Room 3/4
	<i>Electrochemical and Photochemical Conversion of CO₂</i>
	<i>Chair-persons:</i> Andrew Borcasly and Rosa Arrigo
10:40-11:20	<i>KN 1</i>
	<i>Reduction of Low Concentration of CO₂ Using Metal-Complex Catalysts</i>
	Prof. Osamu Ishitani – Tokyo Institute of Technology (Japan)
11:20-11:40	<i>OP – 12</i>
	ID 19: CO ₂ Conversion by Highly-Ordered Mesoporous Photocatalysts
	Han Sol Jung, Jinwhan Joo, Kwangyeol Lee, Minjae Kim, Yong Tae Kang - Korea University, Institute for Basic Science (Republic of Korea)
11:40-12:00	<i>OP – 13</i>
	ID 50: Combined CO ₂ capture and photoconversion using bifunctional porous materials
	Angus Crake, Kostas Christofidis, Andreas Kafizas, Spiros Zafeiratos, Camille Petit – Imperial College London (UK)
12:00-12:20	<i>OP – 14</i>
	ID 80: Raspberry-like Cr ₂ O ₃ -TiO ₂ Core-Shell Microspheres for CO ₂ Photoreduction
	Jeannie Ziang Yie Tan, Meltiani Belekoukia, Jin Xuan, M. Mercedes Maroto-Valer - Heriot-Watt University (UK)
12:20-12:40	<i>OP – 15</i>
	ID 75: Green methane production from CO ₂ and H ₂ under solar light irradiation
	Nicole Meulendijks, Jorgen Sweelssen, Pascal Buskens, Francesc Sastre - The Netherlands Organisation for Applied Scientific Research (The Netherlands)

Tuesday, August 28th

Morning

Time (am)	Auditorium 1
10:40-12:00	<i>Industry Perspective on CO₂ Utilization</i>
	<i>Chair-persons: Barbara Olfe-Kräutlein and Dennis Krämer</i>
	<p>The session focuses on industry perspectives of CCU technologies, with Brazil and Germany as examples.</p> <ul style="list-style-type: none">• Welcome and Introduction;• Overview German Funding Scheme;• Overview Brazilian Funding Options;• Industry Presentations; <p>Christoph Gürtler (Covestro - Germany) Annika Stute (Covestro - Germany) Markus Oles (ThyssenKrupp - Germany) Ana Mussi (Petrobras - Brazil) Jorge Peron Mendes (Firjan - Brazil)</p> <ul style="list-style-type: none">• Panel with all participants;• Wrap Up/Closing Remarks.

Tuesday, August 28th

Afternoon

Time (pm)	Coffee Break Room
12:40-2:00	<i>Lunch</i>
2:00-2:40	Foyer
	<i>Poster Session 1</i>
	Auditorium 2
	<i>Thermal and Catalytic Conversion of CO₂ into Fuels and Chemicals</i>
	<i>Chair-persons: Lucia Appel and Aaron M. Appel</i>
2:40-3:00	<i>OP – 16</i>
	ID 73: Study of new catalysts based on transition metal carbides of group 5 for the selective reduction of CO ₂ to CO
	Arturo Pajares, Pilar Ramirez de la Piscina, Narcis Homs – University of Barcelona and Catalonia Institute for Energy Research (Spain)
3:00-3:20	<i>OP – 17</i>
	ID 137: Selective hydrogenation of CO ₂ into CO on a highly dispersed nickel catalyst: effect of pre-treatment and ageing
	Liane M. Rossi, Thalita Galhardo, Adriano H. Braga, Renato V. Gonçalves – University of São Paulo (Brazil)
3:20-3:40	<i>OP – 18</i>
	ID 31: Bulk and surface properties of metal carbides: implications for catalysis
	Matthew G. Quesne, Alberto Roldan, Nora H. de Leeuw, C. Richard A. Catlow - Cardiff University (UK)
3:40-4:20	<i>KN 3</i>
	<i>Dry Reforming of Methane Using Bulk and Supported Carbides</i>
	Prof. Victor Teixeira da Silva – Federal University of Rio de Janeiro (Brazil)
4:20-5:00	Coffee Break Room
	<i>Coffee Break</i>

Tuesday, August 28th

Afternoon

Time (pm)	Coffee Break Room
12:40-2:00	<i>Lunch</i>
2:00-2:40	Foyer
	<i>Poster Session I</i>
	Room 1/2
	CO₂ Capture Processes
	<i>Chair-persons: Fabiana Mendes and Angela Dibenedetto</i>
2:40-3:20	<i>KN - 2</i>
	<i>Towards Sustainable Energy and Materials: Combined Carbon Capture and Conversion Using Novel Liquid-like Nanoscale Hybrid Materials</i>
	Prof. Alissa Park – Columbia University (USA)
3:20-3:40	<i>OP – 19</i>
	ID 74: CO ₂ adsorption on N-doped graphene oxide
	Thiago C. dos Santos, Fernando L. S. Junior, Célia M. Ronconi – Federal Fluminense University and CBPF (Brazil)
3:40-4:00	<i>OP – 20</i>
	ID 109: Swing Adsorption Processes for Carbon Capture using Microporous Organic Polymers
	Robert Dawson, Alex James, Jake Reynolds, Daniel Reed, Peter Styring - University of Sheffield (UK)
4:20-5:00	Coffee Break Room
	<i>Coffee Break</i>

Tuesday, August 28th

Afternoon

Time (pm)	Coffee Break Room
12:40-2:00	<i>Lunch</i>
2:00-2:40	Foyer
	<i>Poster Session I</i>
	Room 3/4
	<i>Electrochemical and Photochemical Conversion of CO₂</i>
	<i>Chair-persons: Osamu Ishitani and Camille Petit</i>
2:40-3:00	<i>OP – 21</i>
	ID 29: New alloy systems for the electrochemical conversion of CO ₂ to multicarbon products
	Andrew B Bocarsly, Audrey R. Paris, Sonja A. Francis - Princeton University (USA)
3:00-3:20	<i>OP – 22</i>
	ID 148: Hybrid multifunctional materials for CO ₂ photoreduction by Artificial Photosynthesis
	Alba García-Sánchez, Patricia Reñones, Carmen García, Elena Alfonso, Raul Perez Ruiz, Mariam Barawi, Marta Liras, Fernando Fresno, Víctor Antonio de la Peña O'Shea - IMDEA Energy Institute (Spain)
3:20-3:40	<i>OP – 23</i>
	ID 156: In situ and operando X-ray spectroscopy studies of the carbon dioxide electro-reduction
	C. Genovese, M. E. Schuster, V. Pfeifer, J. J. Velasco Velez, D. Gianolio, G. Cibir, M. Haevecker, A. Knop Gericke, G. Held, C. Ampelli, S. Perathoner, G. Centi, R. Arrigo - University of Messina (Italy), Johnson Matthey Technology Centre, University of Reading and Diamond Light Source Ltd (UK), Fritz-Haber-Institute and Max-Planck-Institute (Germany)
3:40-4:00	<i>OP – 24</i>
	ID 110: CO ₂ reduction at Pt _{1-x} Fe _x alloys: An experimental and computational study
	Gael Gobaille-Shaw, Emma Freeman, Alberto Roldan, David Fermin, Jo Humphrey - University of Bristol, University of Bath, Cardiff University and National Physics Laboratory (UK)
4:00-4:20	<i>OP – 25</i>
	ID 79: Modelling the performance of a photocatalytic electrochemical cell for CO ₂ utilization
	X. Luo, J. Xuan, E. Sanchez Fernandez, M. M. Maroto-Valer - Heriot-Watt University (UK)
4:20-5:00	Coffee Break Room
	<i>Coffee Break</i>

Tuesday, August 28th

Afternoon

Time (pm)	Auditorium 1/2
	<i>Thermal and Catalytic Conversion of CO₂ into Fuels and Chemicals</i>
	<i>Chair-persons:</i> Jaap Vente
5:00-5:20	<i>OP – 26</i>
	ID 38: CO ₂ as Dehydrogenation Agent for Aromatics
	Sang-Eon Park - Inha University (Republic of Korea)
5:20-5:40	<i>OP – 27</i>
	ID 17: Sustainable hydrocarbon business based on biogenic carbon dioxide and renewable electricity
	Sampo Mäkikouri, Janne Kärki, Cyril Bajamundi, Markus Hurskainen, Eemeli Tsupari - VTT Technical Research Centre of Finland (Finland)
5:40-6:00	<i>OP – 28</i>
	ID 62: "Blue-Urea": Sustainable AgriChem
	Justin Driver, Peter Styring, Rhodri E Owen, Terence Makenyire, James McGregor – University of Sheffield (UK)

Afternoon

Time (pm)	Room 1/2
	<i>Policy, Regulation, Life Cycle Analysis</i>
5:00-5:20	<i>Chair-persons:</i> Katy Armstrong
	<i>OP – 29</i>
	ID 77: Cleaning the Air from CO ₂ - Life Cycle Assessment of a commercial Direct Air Capture Plant
	Aleksandar Lozanovski, Peter Brandstetter, Michael Held - University of Stuttgart and Fraunhofer Institute for Building Physics (Germany)
5:20-5:40	<i>OP – 30</i>
	ID 108: Labeling scenarios for products made with CO ₂
	Barbara Olfe-Kräutlein - Institute for Advanced Sustainability Studies (Germany)
5:40-6:00	<i>OP – 31</i>
	ID 169: From sector coupling to sector symbiosis
	Hanna Dura, Dennis Kramer – Dechema (Germany)

Tuesday, August 28th

Afternoon

Time (pm)	Room 3/4
	Thermal and Catalytic Conversion of CO₂ into Fuels and Chemicals
	<i>Chair-persons:</i> Narcis Horms
5:00-5:20	<i>OP – 32</i>
	ID 129: Au/TiO ₂ Catalyst for Conversion of CO ₂ in Ethanol
	Tomaz Neves Garcia, Adriano H. Braga, Pedro Vidinha, Liane Marcia Rossi – University of São Paulo (Brazil)
5:20-5:40	<i>OP – 33</i>
	ID 139: Some kinetic features of the mechanochemical CO ₂ hydriding process during olivine serpentinization reaction
	Gabriele Mulas, Valeria Farina, Stefano Enzo, Nadia Soledad Gamba, Fabiana Gennari, Sebastiano Garroni - University of Sassari (Italy), Atomic Center of Bariloche -CNEA-CONICET, Balseiro Institute (Argentina) and University of Burgos (Spain)
5:40-6:00	<i>OP – 34</i>
	ID 84: Carbon Reduction Potential of Coal to Olefin Industry by CCS Technology in China
	Qun Shen, Wei Wei - CAS Key Laboratory of Low-Carbon Conversion Science & Engineering (China)

Wednesday, August 29th

All day long

Time	Entrance Hall
8:00am-5:00 pm	Registration

Morning

Time (am)	Auditorium 1/2
9:00-10:00	<i>PL - 3</i>
	<i>CO₂ Capture and Utilisation</i>
	Prof. Michael North – University of York (United Kingdom) <i>Chair-person: José Carlos Netto Ferreira</i>
10:00-10:40	Coffee Break Room
	<i>Coffee Break</i>

Wednesday, August 29th

Morning

Time (am)	Auditorium 1/2
	Thermal and Catalytic Conversion of CO₂ into Fuels and Chemicals
	<i>Chair-persons:</i> Christoph Gutler and Liane M. Rossi
10:40-11:00	<i>OP – 35</i>
	ID 7: Valorization of residual streams enable economic effective CO ₂ utilization
	Jaap Vente – ECN (The Netherlands)
11:00-11:20	<i>OP – 36</i>
	ID 55: Investigating Alternative Catalysts for Green Cyclic Carbonate Synthesis
	Katie J. Lamb, Michael North – University of York (UK)
11:20-11:40	<i>OP – 37</i>
	ID 166: Ceria doped with Cu for dimethyl carbonate synthesis from CO ₂ and methanol
	A. A. Marciniak, O. C. Alves, L. G. Appel and C. J. A. Mota – Federal University of Rio de Janeiro, National Institute of Technology and Federal Fluminense University (Brazil)
11:40-12:00	<i>OP – 38</i>
	ID 117: A facile and greener synthesis of butylene carbonate via CO ₂ utilisation using a novel copper–zirconia oxide/graphene catalyst
	Victor Onyenkeadi, Omar Aboelazayem, Basudeb Saha – London South Bank University (UK)
12:00-12:20	<i>OP – 39</i>
	ID 40: A detailed investigation of CO ₂ addition over diols promoted by organic bases: toward greener cyclic carbonates
	Christine Jérôme, Christophe Detrembleur, Bruno Grignard, Raphaël Méreau, Antoine Brège, Thierry Tassaing - University of Bordeaux (France) and University of Liège (Belgium)
12:20-12:40	<i>OP - 40</i>
	ID 95: High-throughput screening of catalysts for the co-polymerization of CO ₂ and cyclohexene oxide
	Richard H. Heyn, Knut T. Hylland, Ole Swang, Ruth Elisabeth Stensrød, Erland S. Aunan, Ravindra R. Chowreddy, Siw B. Fredriksen, Mats Tilset - SINTEF Industry, University of Oslo and Norner Research (Norway)

Wednesday, August 29th

Morning

Time (am)	Room 1/2
	<i>Policy, Regulation, Life Cycle Analysis</i>
	<i>Chair-persons: Sérgio Noburu Kuriyama and Barbara Olfe-Kräutlein</i>
10:40-11:00	<i>OP – 41</i>
	ID 42: An Ecological & CO ₂ Avoidance Cost Assessment of Liquid Energy Carrier Production – Power-to-Methanol and Oxymethylene Ethers
	Christoph Hank, Lukas Laza, Mohamed Ouda, Robin J. White, Achim Schaadt - Fraunhofer Institute for Solar Energy Systems, Karlsruhe Institute of Technology, Technical University Munich (Germany)
11:00-11:20	<i>OP – 42</i>
	ID 98: Economic potentials of a larger scale CCU deployment: A review and outlook
	Henriette Naims - Institute for Advanced Sustainability Studies (Germany)
11:20-11:40	<i>OP – 43</i>
	ID 88: Comparative cross-sectoral systems analysis of production, use and recycling of CO ₂ based products
	Sebastian Turnau, Stefan Bringezu - University of Kassel (Germany)
11:40-12:00	<i>OP – 44</i>
	ID 134: CarbonNext - the next generation of carbon for the process industry
	Dennis Krämer, Katy Armstrong, Hans Bolscher – DECHEMA (Germany), University of Sheffield (UK), TRINOMICS (The Netherlands)
12:00-12:40	<i>KN – 5</i>
	<i>Developing a framework for LCA and TEA in carbon dioxide utilization</i>
	Prof. Peter Styring – University of Sheffield (United Kingdom)

Wednesday, August 29th

Morning

Time (am)	Room 3/4
	CO₂ Conversion by Biotechnological Routes
	<i>Chair-persons:</i> Michele Aresta and Alex de Souza
10:40-11:20	<i>KN - 4</i>
	<i>How the combination of catalysis and biotechnology can boost CO₂ conversion</i>
	Prof. Angela Dibenedetto – University of Bari (Italy)
11:20-11:40	<i>OP – 45</i>
	ID 16: Moving CO ₂ from a liability to an asset: Integrating Electricity and Natural Gas in a sustainable micro-grid
	Alberto Varone - Center for Advanced Studies Research and Development in Sardinia (Italy)
11:40-12:00	<i>OP – 46</i>
	ID 43: Continuous Production of 2,3-butanediol from CO ₂ by <i>Cupriavidus necator</i> gas fermentation
	Yanming Wang, Rajesh Bommareddy, Nigel Minton, Alex Conradie - University of Nottingham (UK)
12:00-12:20	<i>OP – 47</i>
	ID 114: CO ₂ and Nutrient Uptake in Two Brackish Water Strains of <i>Chlorella vulgaris</i>
	Faqih Ahmad Shuhaili, Seetharaman Vaidyanathan - University of Sheffield (UK)
12:20-12:40	<i>OP – 48</i>
	ID 123: Carbon dioxide uptake and biochemical routing in microalgae
	Rafael M Santos, Jolien Thijs, Evangelos Georgakopoulos, Yi Wai Chiang, Ann Creemers, Tom Van Gerven – University of Sheffield (UK)

Wednesday, August 29th

Afternoon

Time (pm)	Coffee Break Room
12:40-2:00	<i>Lunch</i>
2:00-2:40	Foyer
	<i>Poster Session 1</i>
	Auditorium 1/2
	<i>Thermal and Catalytic Conversion of CO₂ into Fuels and Chemicals</i>
	<i>Chair-persons: Chushan Song and Ksenia Parkhomenko</i>
2:40-3:00	<i>OP – 49</i>
	ID 150: Catalytic conversion of CO ₂ to syngas using a crystalline metal oxide
	Mina Zarabian, Azfar Hassan, Venkataraman Thangadurai, Pedro Pereira-Almao - University of Calgary (Canada)
3:00-3:20	<i>OP – 50</i>
	ID 68: Alkaline Zirconate Catalysts for CO ₂ Storage and H ₂ Production through CH ₄ Dry Reforming
	J. Arturo Mendoza-Nieto, Heriberto Pfeiffer – National Autonomous University of Mexico (Mexico)
3:20-3:40	<i>OP – 51</i>
	ID 141: Bimetallic catalysts for CO ₂ hydrogenation to C ₂ -C ₄ = olefins and C ₅ + higher hydrocarbons
	Chunshan Song, Wenjia Wang, Nuttakorn Boreriboon, Xiao Jiang, Xiaowa Nie, Wenhui Li, Xinwen Guo, Xiaoxing Wang, Ratchprapa Sathawong, Pattarapan Prasassarakich - Pennsylvania State University (USA), Dalian University of Technology (China) and Chulalongkorn University (Thailand)
3:40-4:20	<i>KN 6</i>
	<i>Theoretical and Experimental Investigations on Carbon dioxide conversion</i>
	Prof. Xinwen Guo – Dalian University of Technology (China)
4:20-5:00	Coffee Break Room
	<i>Coffee Break</i>

Wednesday, August 29th

Afternoon

Time (pm)	Coffee Break Room
12:40-2:00	<i>Lunch</i>
2:00-2:40	Foyer
	<i>Poster Session I</i>
	Room 1/2
	<i>Policy, Regulation, Life Cycle Analysis</i>
	<i>Chair-persons: Peter Styring and Henriette Naims</i>
2:40-3:00	<i>OP – 52</i>
	ID 48: A Guideline for Standardized Life Cycle Assessment On Carbon Capture And Utilization
	Leonard Jan Müller, Arne Kätelhön, André Sternberg, Ana Villa Zaragoza, Stavros Michailos, Katy Armstrong, Peter Sanderson, Peter Styring, André Bardow - RWTH Aachen University and Institute of Energy and Climate Research - Energy Systems Engineering (Germany) and University of Sheffield (UK)
3:00-3:20	<i>OP – 53</i>
	ID 127: Guidelines for standardized techno-economic assessment of carbon capture and utilization technologies
	Annika Marxen, Arno Zimmermann, Johannes Wunderlich, Georg Buchner, Stavros Michailos, Katy Armstrong, Henriette Naims, Peter Styring, Reinhard Schomäcker - IASS Institute for Advanced Sustainability Studies and Technical University of Berlin (Germany), University of Sheffield (UK)
3:20-3:40	<i>OP – 54</i>
	ID 121: Are e-fuels worth it? Comparative TEA of Methanol & OMEs
	Arno Zimmermann, Emre Gençer, Stavros Michailos, Katy Armstrong, Johannes Wunderlich, Annika Marxen, Henriette Naims, Reinhard Schomäcker, Francis O'Sullivan, Peter Styring – Technical University of Berlin and Institute for Advanced Sustainability Studies (Germany), Massachusetts Institute of Technology (USA) and University of Sheffield (UK)
3:40-4:00	<i>OP – 55</i>
	ID 91: Selecting Which Products to Manufacture from CO ₂
	Peter Sanderson, Katy Armstrong, Dennis Kramer, Oliver Hurtig, Hans Bolscher, Jessica Yearwood, Elske Veenstr, Peter Styring - University of Sheffield (UK), DECHEMA (Germany), TRINOMICS (The Netherlands)
4:00-4:20	<i>OP – 56</i>
	ID 92: Biofuels and RFNBOs: Exploring the Opportunities for CO ₂ -derived Fuels
	Katy Armstrong, Peter Styring – University of Sheffield (UK)
4:20-5:00	Coffee Break Room
	<i>Coffee Break</i>

Wednesday, August 29th

Afternoon

Time (pm)	Coffee Break Room
12:40-2:00	<i>Lunch</i>
2:00-2:40	Foyer
	<i>Poster Session II</i>
	Room 3/4
	<i>CO₂ as Working Agent</i>
	<i>Chair-persons: Sampo Mäkikouri and Nannan Sun</i>
2:40-3:00	<i>OP – 57</i>
	ID 125: CO ₂ -Responsive Linen Surface Hydrophobicity
	Alex Cormier, Kyle Boniface, Michael Cunningham, Philip Jessop - Queen's University, Kingston (Canada)
3:00-3:20	<i>OP – 58</i>
	ID 136: Design and evaluation of CO ₂ -switchable polymers as forward osmosis draw solutes
	S. N. Ellis, Philip G. Jessop, Michael F. Cunningham - Queen's University, Kingston (Canada)
3:20-3:40	<i>OP – 59</i>
	ID 47: Porosity at the interface of organic matter and mineral components contribute significantly to gas adsorption on shales
	Jialin Shi, Nannan Sun,; Wei Wei, Yuhan Sun - Shanghai Advanced Research Institute, University of Chinese Academy of Sciences, Shanghai Tech University, Institute of Urban Environment, Institute of Rock and Soil Mechanics (China)
3:40-4:00	<i>OP – 60</i>
	ID 14: An improved coal-fired power plant configuration incorporating a supercritical CO ₂ cycle
	Cheng Xu, Qiang Zhang, Yachi Gao, Wenyi Liu, Gang Xu, Yongping Yang - North China Electric Power University (China)
4:00-4:20	<i>OP – 61</i>
	ID 30: Removal of Ammonium Perfluorooctanoate From Fluoropolymer Under scCO ₂
	Qiang He, Jian-Gang Chen, Zhao-Tie Liu, Zhong-Wen Liu - Shannxi Normal University and Shannxi University of Science & Technology (China)
4:20-5:00	Coffee Break Room
	<i>Coffee Break</i>

Wednesday, August 29th

Afternoon

Time (pm)	Auditorium 1/2
	Thermal and Catalytic Conversion of CO₂ into Fuels and Chemicals
	<i>Chair-persons:</i> Juan Arturo Mendonza-Nieto
5:00-5:20	<i>OP – 62</i>
	ID 158: Assessment of the Brazilian market for products by conversion of CO ₂ from thermal power plants
	Alessandra de Carvalho Reis, Kelvin André Pacheco, Cláudio Augusto Oller Nascimento, Rita Maria de Brito Alves – University of São Paulo (Brazil)
5:20-5:40	<i>OP – 63</i>
	ID 131: ZIF-8 based materials for selective CO ₂ conversion
	Nágila El Chamy Maluf, Rômulo Augusto Ando, José César Masini, Liane Marcia Rossi – University of São Paulo (Brazil)
5:40-6:00	<i>OP – 64</i>
	ID 107: Overview of CO ₂ Utilization Research and Development in KACST: Two research examples will be presented
	Saeed Al-Shihri, Abdulaziz A. Bagabas, Hamid Al-Megren, Sultan Al-Shmimri - King Abdulaziz City for Science and Technology (Saudi Arabia)

Evening

Time (pm)	Bota Restaurant
7:00-10:00	<i>Congress Dinner</i>

Wednesday, August 29th

Afternoon

Time (pm)	Room 1/2
	<i>Policy, Regulation, Life Cycle Analysis</i>
5:00-5:20	<i>Chair-persons: Dennis Kraemer</i>
	<i>OP – 65</i>
	ID 90: A combined LCA-TEA approach for assessing the impacts of deploying waste mineralization
	Stavros Michailos, Peter Sanderson, Katy Armstrong, Peter Styring, Arno Zimmerman, Annika Marken, Leonard Muller - University of Sheffield (UK), Technical University of Berlin, Institute for Advanced Sustainability Studies and RWTH Aachen University (Germany)
5:20-5:40	<i>OP – 66</i>
	ID 76: Life Cycle Assessment of the first industrial scale Power-to-Liquid Blue Crude production
	Aleksandar Lozanovski, Peter Brandstetter, Michael Held - University of Stuttgart and Fraunhofer Institute for Building Physics (Germany)
5:40-6:00	<i>OP – 67</i>
	ID 41: How much CO ₂ emissions can be avoided by Carbon Capture and Utilization in the chemical industry?
	Arne Kätelhön, Raoul Meys, Sarah Deutz, André Bardow - RWTH Aachen University and Institute of Energy and Climate Research (Germany)

Evening

Time (pm)	Bota Restaurant
7:00-10:00	<i>Congress Dinner</i>

Wednesday, August 29th

Afternoon

Time (pm)	Room 3/4
	Thermal and Catalytic Conversion of CO₂ into Fuels and Chemicals
	<i>Chair-persons:</i> Katie Lamb
5:00-5:20	<i>OP – 68</i>
	ID 170: Aspects of the direct carboxylation of C5 acid to C6 diacids with inorganic carbonates: is CO ₂ necessary?
	Francesco Nocito, Angela Dibenedetto, Michele Aresta – University of Bari (Italy)
5:20-5:40	<i>OP – 69</i>
	ID 165: CO ₂ methanation employing Ni supported on mixed oxides.
	O. E. Everett Espino, P.C. Zonetti, R. R. de Avillez, L. G. Appel – National Institute of Technology and Pontificia Catholic University (Brazil)
5:40-6:00	<i>OP – 70</i>
	ID 167: A comparative economic study of cyclic CO ₂ injection in unconventional oil reservoirs: effects of gas type and fracture spacing
	Yasaman Assef, Pedro Pereira Almao – University of Calgary (Canada)

Evening

Time (pm)	Bota Restaurant
7:00-10:00	<i>Congress Dinner</i>

Thursday, August 30th

All Morning

Time	Entrance Hall
8:00am-11:00 am	Registration

Morning

Time (am)	Auditorium 1/2
9:00-10:00	<i>PL - 4</i>
	<i>Organofunctionalized solids for CO₂ capture: advantages and drawbacks</i>
	Prof. Heloise Pastore – University of Campinas (Brazil)
	<i>Chair-person: Cristiane Henriques</i>
10:00-10:40	Coffee Break Room
	<i>Coffee Break</i>

Thursday, August 30th

Morning

Time (am)	Auditorium 1/2
	<i>CO₂ as Working Agent</i>
	<i>Chair-persons: Philip Jessop</i>
10:40-11:20	<i>KN - 7</i>
	<i>Supercritical Carbon Dioxide: A Powerful and Life-Sustaining Solvent</i>
	Alex Queiroz de Souza – Senai Institute of Green Chemistry (Brazil)
11:20-11:40	<i>OP – 71</i>
	ID 71: CO₂-responsive materials as protective coatings
	Michael F. Cunningham, Rui Resendes, Adam Ozvald, Yun Yang, Bhanu Mudraboyina, Jaddie Ho, Philip G. Jessop - Queen's University, Kingston (Canada)
11:40-12:00	<i>OP – 72</i>
	ID 143: Enhanced carbonation of metred cement by solution
	Nicholas Lippiatt, Tung-Chai Ling - Hunan University (China)

Afternoon

Time (pm)	Auditorium 1/2
12:00-12:40	<i>Closing Ceremony</i>

Thursday, August 30th

Morning

Time (am)	Room 1/2
	<i>Electrochemical and Photochemical Conversion of CO₂</i>
	<i>Chair-persons: Francesc Sastre and Yong Tae Kang</i>
10:40-11:00	<i>OP – 73</i>
	ID 22: Screening and optimisation of process parameters for the photocatalytic reduction of CO ₂
	W.A. Thompson, E. Sanchez Fernandez, M. M. Maroto-Valer - Heriot-Watt University (UK)
11:00-11:20	<i>OP – 74</i>
	ID 144: Enhancement of the photoactivity for CO ₂ photoreduction by semiconductor heterojunctions
	Patricia Reñones, Fernando Fresno, Jose Luis Garcia Fierro, Victor Antonio de la Peña O'Shea - IMDEA Energy and Institute of Catalysis and Petrochemistry (Spain)
11:20-11:40	<i>OP – 75</i>
	ID 81: Novel W ₁₈ O ₄₉ -TiO ₂ Materials for Solar Fuel Production from CO ₂ Photoreduction
	Jeannie Ziang Yie Tan, Meltiani Belekoukia, Jin Xuan, M. Mercedes Maroto-Valer - Heriot-Watt University (UK)
11:40-12:00	<i>OP – 76</i>
	ID 10: Investigation on Reductants and Layout of Cu/TiO ₂ for Improvement of CO ₂ Reduction Performance
	Akira Nishimura, Ryuki Toyoda, Daichi Tatematsu, Masafumi Hirota, Akira Koshio, Fumio Kokai - Mie University (Japan)

Afternoon

Time (pm)	Auditorium 1/2
12:00-12:40	<i>Closing Ceremony</i>

Thursday, August 30th

Morning

Time (am)	Room 3/4
	Thermal and Catalytic Conversion of CO₂ into Fuels and Chemicals
	<i>Chair-persons:</i> Xinwen Guo and Michael North
10:40-11:00	<i>OP – 77</i>
	ID 52: The Effect of Supercritical CO ₂ on the Performance and Selectivity of the CO ₂ RR using Cu@C Catalysts
	KaiJunge Puring, Olga Evers, Michael Prokein, Stefan Kaluza, Manfred Renner, Ulf-Peter Apfel - Fraunhofer UMSICHT and Ruhr-University Bochum (Germany)
11:00-11:20	<i>OP – 78</i>
	ID 124: CO ₂ hydrogenation using N-doped Ni and Co catalysts: effect of metal type and loading
	Bruno Henrique Arpini, Adriano Henrique Braga, Liane Marcia Rossi – University of São Paulo (Brazil)
11:20-11:40	<i>OP – 79</i>
	ID 61: Synthetic Mobility Fuels from Impure CO ₂ Streams
	Peter Styring, Matthew Moss, Daniel G Reed, George RM Dowson - University of Sheffield (UK)
11:40-12:00	<i>OP – 80</i>
	ID 56: Atmospheric-Pressure Plasma Device for CO ₂ Conversion and Utilization
	Adriano Randi, Benjamin R. Buckley, Felipe Iza, Alex Shaw - Loughborough University (UK)

Afternoon

Time (pm)	Auditorium 1/2
12:00-12:40	<i>Closing Ceremony</i>

Poster Sessions 1 and 2
Tuesday, August 28th and Wednesday, August 29th

Afternoon

Time (pm)	Foyer
02:00-2:40	<i>Chair-persons: Alexandre Leiras</i>
	<i>PP – 01</i>
	ID 102: Assessment of the parameters in photoelectrochemical reduction of CO ₂ to alcohols using TiO ₂ nanotubes decorated with zirconia
	João Perini, Juliana Ferreira de Brito, Juliano C Cardoso, Maria Valnice Boldrin Zanoni - São Paulo State University - UNESP (Brazil)
	<i>PP – 02</i>
	ID 93: Photoelectrocatalysis applied on the CO ₂ reduction at TiO ₂ Nanotubes Electrodes Decorated with Nanoparticle/Nanocubes copper oxides
	Juliana Ferreira de Brito, João Perini, Lilian D.M. Torquato, Maria Valnice Boldrin Zanoni - São Paulo State University – UNESP (Brazil)
	<i>PP – 03</i>
	ID 20: Advanced catalysts for methanol production from CO ₂ and renewable hydrogen
	Alberto Pettinau, Francesca Ferrara, Mauro Mureddu - Sotacarbo S.p.A., Grande Miniera di Serbariu, 09013 Carbonia (Italy)
	ID 21: Catalytic hydrogenation of CO ₂ to dimethyl ether: Project description and first experimental results
	Francesca Ferrara, Mauro Mureddu, Alberto Pettinau - Sotacarbo S.p.A., Grande Miniera di Serbariu, 09013 Carbonia (Italy)
	<i>PP – 04</i>
	ID 25: Li ₄ SiO ₄ /MgO composites produced from serpentinite (Mg ₃ Si ₂ O ₅ (OH) ₄) for the efficient capture of CO ₂
	Gilvan M. Paz, Sara S. Vieira, Alexandre C. Bertoli, Fabiane C. Ballotin, Edmilson M. de Moura, Maria H. Araujo, Ana Paula C. Teixeira, Ottávio Carmignano, Rita C. O. Sebastião, Rochel M. Lago – Federal University of Minas Gerais, Federal Institute of Education, Science and Technology of Piauí, Federal University of Piauí, Pedras Congonhas Mining (Brazil)
	<i>PP – 05</i>
	ID 26: Artificial Neural Network: a unique tool to evaluate the kinetics of CO ₂ absorption: the case of Li ₄ SiO ₄ /MgO composites
	Gilvan M. Paz, Sara S. Vieira, Alexandre C. Bertoli, Fabiane C. Ballotin, Edmilson M. de Moura, Maria H. Araujo, Ana Paula C. Teixeira, Ottávio Carmignano, Rita C. O. Sebastião, Rochel M. Lago – Federal University of Minas Gerais, Federal Institute of Education, Science and Technology of Piauí, Federal University of Piauí, Pedras Congonhas Mining (Brazil)
	<i>PP – 06</i>
	ID 39: Atmospheric Carbon Dioxide Fixation using Polypyridyl-based Lanthanide Complexes
	Charis Nathan, Peter J. Cragg, Ian A. Gass - University of Brighton (UK)

Afternoon

Time (pm)	Foyer
02:00-2:40	<i>Chair-persons: Alexandre Leiras</i>
	<i>PP – 07</i>
	ID 45: Probing and tailoring CaMn-based perovskite oxygen carrier materials for chemical looping combustion
	Ningyu Yu, Mahesh Muraleedharan Nair, Nader Mahinpey - University of Calgary (Canada)
	<i>PP – 08</i>
	ID 59: Hydrogenation of CO ₂ to Methanol and Dimethyl Ether over Bifunctional Catalysts with Modified Alumina
	Davi Figueiredo de Carvalho; Guilherme C. Almeida; Claudio J. A. Mota – Federal University of Rio de Janeiro (Brazil)
	<i>PP – 09</i>
	ID 64: Investigation of the Isothermal Redox Performances of Manganite-Based Perovskites for CO ₂ Conversion
	Pradeep Shrestha, Mahesh M Nair, Ningyu Yu, Nader Mahinpey - University of Calgary (Canada)
	<i>PP – 10</i>
	ID 65: Tri-reforming of methane for reducing CO ₂ emissions using NiMo/SBA-15 catalyst
	Martin Schmal; Rita Maria de Brito Alves; Thiago Lewis Reis Hower; Camila Emilia Figueira; Reinaldo Giudici – University of São Paulo (Brazil)
	<i>PP – 11</i>
	ID 66: Biogas reforming for hydrogen production over Ni-Co/CeO ₂ /Al ₂ O ₃ catalyst: effect of reaction temperature
	Luiz Guilherme C. Chagas; Andressa A. A. da Silva; Leandro V. Pontual; Lisiane V. Mattos – Federal Fluminense University (Brazil)
	<i>PP – 12</i>
	ID 69: Lithium Cuprate (Li ₂ CuO ₂) Modified with Alkaline Carbonates as Effective CO ₂ Sorbents
	J. Arturo Mendoza-Nieto, Irene Ham-Liu, Heriberto Pfeiffer – National Autonomous University of Mexico (Mexico)
	<i>PP – 13</i>
	ID 86: Deriving economic value for steel flue gases
	Jason Collis, Till Strunge, Arno Zimmermann, Reinhard Schomacker – Technical University of Berlin (Germany)
	<i>PP – 14</i>
	ID 82: Effect of CO ₂ Adsorption to the CO ₂ Photoreduction Efficiency
	Jeannie Z. Y. Tan, Hao R. Xu, M. Mercedes Maroto-Vale - Heriot-Watt University (UK)
	<i>PP – 15</i>
	ID 160: Synthesis of Diethyl Carbonate from CO ₂
	Fernando Feldman; Claudio J. A. Mota – Federal University of Rio de Janeiro (Brazil)

Afternoon

Time (pm)	Foyer
02:00-2:40	<i>Chair-persons: Alexandre Leiras</i>
	<i>PP – 16</i>
	ID 94: CCU Awareness and Acceptance: Devising guidelines for communicating about CCU products
	Katy Armstrong, Peter Sanderson, Peter Styring - The University of Sheffield (UK)
	<i>PP – 17</i>
	ID 171: Carbon2Chem® - CCU as a step towards closing the carbon cycle
	Teresa Wich, Wiebke Lueke, Goerge Deerberg, Markus Olesa - Thyssenkrupp and Fraunhofer UMSICHT (Germany)
	<i>PP – 18</i>
	ID 168: Effect of adding Al and Cr to Cu/Zn catalyst on the CO ₂ hydrogenation to methanol
	Cássia S. Santana, Alisson H. M. da Silva, Elisabete M. Assaf, José M. Assaf, Janaína F. Gomes - Federal University of São Carlos and University of São Paulo, São Carlos (Brazil)
	<i>PP – 19</i>
	ID 99: Synthesis and characterization of silver nanoparticles supported on activated carbon for electrode preparation.
	Carla Ramos Moreira; Pedro F. Teodoro; Marcelo F. L. de Oliveira; Fernanda C.F. Braga; Marcia G. Oliveira; Javier A.C. Velasco; Fabiana M. T. Mendes – National Institute of Technology (Brazil)
	<i>PP – 20</i>
	ID 103: Study of pH influence in Ni-Ga alloy preparation for CO ₂ hydrogenation to methanol
	Letícia F. Rasteiro, Francielle C.F. Marcos, Marco A.L.S. Rossi, Elisabete M. Assaf – University of São Paulo at São Carlos (Brazil)
	<i>PP – 21</i>
	ID 104: A Novel Method and System for Carbon Dioxide Sequestration
	Samy Ponnusamy and Steve Walton – MilliporeSigma and West Pharmaceutical Services (USA)
	<i>PP – 22</i>
	ID 105: Effect of Ni/Pd ratio on fine-tuning nanoparticle size for conversion of CO ₂ into CO
	Adriano H. Braga; Natália J. S. Costa; Renato V. Gonçalves; Karine Phillipot; Liane M. Rossi – University of São Paulo (Brazil) and University of Toulouse (France)
	<i>PP – 23</i>
	ID 112: CO ₂ conversion using organic-inorganic hybrids Fe Catalysts: effect of N- and P- doping
	Guilherme Rudge Zanoni; Adriano Henrique Braga; Liane Marcia Rossi - University of São Paulo (Brazil)
	<i>PP – 24</i>
	ID 113: Catalytic reduction of CO ₂ to alcohols
	Jennifer Dayana Rozendo; Maitê Lippel Gothe; Liane Márcia Rossi; Reinaldo Camino Bazito; Pedro Vidinha - University of São Paulo (Brazil)

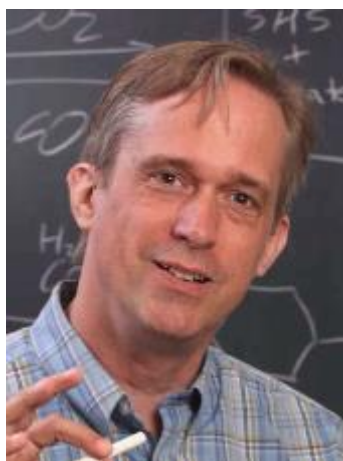
Afternoon

Time (pm)	Foyer
02:00-2:40	<i>Chair-persons: Alexandre Leiras</i>
	<i>PP – 25</i>
	ID 97: Progress in carbon dioxide sorption by basic ionic liquids aqueous solutions
	Nathalia M. Simon; Marcileia Zanatta; Jairton Dupont - Federal University of Rio Grande do Sul (Brazil)
	<i>PP – 26</i>
	ID 118: Bio-inspired Iron-Nickel Sulfides for Tunable Electrocatalytic Syngas Generation in Different Solvents
	Mathias Smialkowski, Stefan Piontek, Kai Junge Puring, Ulf-Peter Apfel – Ruhr-University Bochum and Fraunhofer UMSICHT (Germany)
	<i>PP – 27</i>
	ID 122: Guidelines for techno-economic assessment of carbon capture and utilization technologies
	Johannes Wunderlich, Arno Zimmermann, Georg Buchner, Stavros Michailos, Katy Armstrong, Annika Marxen, Henriette Naims, Peter Styring, Reinhard Schomäcker – Technical University of Berlin, IASS Institute for Advanced Sustainability Studies (Germany), The University of Sheffield (UK)
	<i>PP – 28</i>
	ID 133: Hydrogenation of CO ₂ to hydrocarbons over metallic catalysts supported on Niobium Oxide
	Igor Alves da Silva; José Ribeiro; Cláudio José de Araújo Mota – Federal University of Rio de Janeiro (Brazil)
	<i>PP – 29</i>
	ID 135: Carbon dioxide capture on CaO-NiO composites oxides and subsequent dry methane reforming
	Alejandra Cruz-Hernández, J. Arturo Mendoza-Nieto, Heriberto Pfeiffer – National Autonomous University of Mexico (Mexico)
	<i>PP – 30</i>
	ID 145: Development of NADH regeneration system for the biochemical conversion of carbon dioxide to methanol
	Maitê L. Gothe, Matheus Barone, Lucas Marques, Vitor Caricatti, Reinaldo Bazito, Liane Rossi, Pedro Vidinha – University of São Paulo (Brazil)
	<i>PP – 31</i>
	ID 147: Optimization of Solketal Production from Acetone and Glycerol using CO ₂ as Switchable Catalyst
	Júlia Athayde Costa Nascimento; Bianca Peres Pinto; Claudio Jose de Araujo Mota – Federal University of Rio de Janeiro (Brazil)
	<i>PP – 32</i>
	ID 152: Keeping high-surface area of ceria-based composites for high-temperature thermo and electrochemical conversion systems
	Fabio Coral Fonseca, Daniel Zanetti de Florio, Debora Marani, Vincenzo Esposito - IPEN-CNEN/SP, Federal University of ABC (Brazil) and DTU-Energy Conversion (Denmark)

Plenary Speakers



Michele Aresta – University of Bari (Italy)



Philip Jessop – Queen's University (Canada)

Plenary Speakers



Michael North – University of York (United Kingdom)

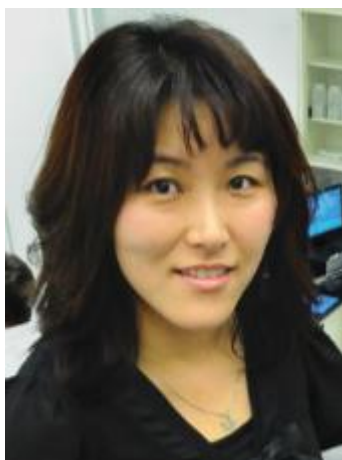


Heloise Pastore – University of Campinas (Brazil)

Keynote Speakers



Osamu Ishitani
Tokyo Inst. Tech. (Japan)



Alissa Park
Columbia Univ. (USA)



Victor Teixeira – *in memoriam*
UFRJ (Brazil)



Angela Dibenedetto
University of Bari (Italy)



Xiwen Guo
Dalian Univ. Tech. (China)



Peter Styring
Univ. of Sheffield (UK)



Alex de Souza
Senai Innovation Institute on Green Chemistry (Brazil)