

# “NOVEL CHEMICAL CATALYTIC AND PHOTOCATALYTIC PROCESSES FOR THE DIRECT CONVERSION OF METHANE AND CO<sub>2</sub> TO PRODUCTS”

Webconference

October 21st to 23th, 2020

## PROGRAM

- Registrations: October 14

[www.embrapa.br/instrumentacao/methane-co2-products](http://www.embrapa.br/instrumentacao/methane-co2-products)



Organization:



Support:



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# PROGRAM

October, 21st. Wednesday

<u>8:30</u>	Opening Dr. José Maria C. Bueno - <u>DEQ-UFSCar</u> – Coordinator of the Thematic Project
<u>9:00</u>	<b>PLENARY LECTURE:</b> <i>“Getting closer to a large-scale process: Photocatalysts for light-assisted CO<sub>2</sub> hydrogenation”</i> Speaker: <b>Dr. Hermenegildo Garcia</b> - <u>Universitat Politecnica de Valencia</u> Chair: <b>Dr. Caue Ribeiro</b> - <u>Embrapa</u>
<u>10:00</u>	<b>PLENARY LECTURE:</b> <i>“Structured catalysts and reactors for the hydrogenation of CO<sub>2</sub>”</i> Speaker: <b>Dr. Jorge Gascon</b> - Center of Catalysis, King Abdullah University of Science and Technology, KAUST Chair: <b>Dr. Jean Marcel R. Gallo</b> - <u>DQ-UFSCar</u>
<u>11:00</u>	<b>Overview of the Progress in the Thematic Project</b> Dr. José Maria Correa Bueno - <u>DEQ-UFSCar</u>
<u>11:15</u>	<b>RL-1 Catalytic conversion of CH<sub>4</sub> by oxidative routes, group of chemical catalysis: CuO Zeolites, AlPOs and MOFs</b> Speakers: <b>Dr. Jean Marcel Gallo</b> - <u>DQ-UFSCar</u> & <b>Dr. Dalmo Mandelli</b> - <u>UFABC</u>
<u>11:30</u>	<b>RL-2 Photo-catalytic conversion of methane and CO<sub>2</sub> into chemicals</b> <b>RL-3 Advanced nano-carbon-based materials from methane</b> Speakers: <b>Dr. Caue Ribeiro</b> - <u>Embrapa</u> & <b>Dr. Diogo Volanti</b> - <u>UNESP</u>
<u>11:50</u>	<b>RL-4 Bi-reforming of methane to syngas</b> <b>RL-5-1 Selective hydrogenation of CO<sub>2</sub> to methanol</b> Speaker: <b>Dr. Daniela Zanchet</b> - <u>IQ-UNICAMP</u>
<u>12:05</u>	<b>RL-5-2 Catalytic conversion of methanol to products</b> Speaker: <b>Dr. Leandro Martins</b> - <u>UNESP</u>
<u>12:20</u>	<b>RL-6 Techno-economic analysis and environmental assessment</b> Speaker: <b>Dr. Alice Medeiros de Lima</b> - <u>DEQ-UFSCar</u>

# PROGRAM

## October, 22nd. Thursday

<u>8:30</u>	Selected presentations from research team (3-5 min each)
<u>9:00</u>	<b>PLENARY LECTURE:</b> <i>"Operando studies of catalysts for methane activation"</i> Speaker: <b>Andrew Beale</b> - Department of Chemistry, University College London & Research Complex at Harwell Chair: Dr. Daniela Zanchet - IQ-UNICAMP
<u>10:00</u>	Selected presentations from research team (3-5 min each)
<u>10:30</u>	<b>PLENARY LECTURE:</b> <i>"Controlling rates and reversibility of CH<sub>4</sub> dehydroaromatization on MoC<sub>x</sub>/H-ZSM-5 catalysts"</i> Speaker: <b>Aditya Bhan</b> – Dept. Chem Eng & Mater Sci / University of Minnesota Chair: Dr. Leandro Martins - UNESP
<u>11:30</u>	<b>PLENARY LECTURE:</b> <i>"The activation of oxygen by Au and Pd nanoparticles for methane oxidation"</i> Speaker: <b>David J Willock</b> - Cardiff Catalysis Institute Chair: Dr. Jean Marcel R. Gallo - DQ-UFSCar

## October, 23th. Friday

<u>09:00</u>	<b>PLENARY LECTURE:</b> <i>"New Metal-Organic Architectures for Mild Oxidative Functionalization of Alkanes"</i> Speaker: <b>Dr. Alexander Kirillov</b> - University of Lisbon Chair: Dr. Dalmo Mandelli
<u>9:45</u>	Internal meeting – with industry representatives (guests) for discussion about project achievements and possibilities for future cooperations.
<u>11:30</u>	Workshop <i>"tie-down"</i>
<u>12:15</u>	End of 3 <sup>th</sup> Workshop day/ End of Workshop

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## PLENARY LECTURES



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## PLENARY LECTURE

“Getting closer to a large-scale process:  
Photocatalysts for light-assisted CO<sub>2</sub> hydrogenation”

**Dr. Hermenegildo Garcia**

Universitat Politècnica de Valencia, UPV (Spain)

## PLENARY LECTURE

“Structured catalysts and reactors for the  
hydrogenation of CO<sub>2</sub>”

**Prof. Dr. Jorge Gascon**

King Abdullah University of Science and Technology - KAUST  
(Saudi Arabia)





## PLENARY LECTURE

“Operando studies of catalysts for methane activation”

### **Dr. Andrew Beale**

Department of Chemistry, University College  
London & Research Complex at Harwell (UK)

## PLENARY LECTURE

“Controlling rates and reversibility of CH<sub>4</sub>  
dehydroaromatization on MoC<sub>x</sub>/H-ZSM-5 catalysts”

### **Prof. Dr. Aditya Bhan**

Dept. Chem Eng & Mater Sci /University of Minnesota (USA)



## PLENARY LECTURE

“The activation of oxygen by Au and Pd  
nanoparticles for methane oxidation”

### **Prof. Dr. David Willock**

Cardiff Catalysis Institute, University of Cardiff (UK)





**October 23th**  
**PLENARY LECTURE**

“New Metal-Organic Architectures for Mild  
Oxidative Functionalization of Alkanes”

**Prof. Dr. Alexandre Kirillov**

University of Lisbon  
(Portugal)

Organization:



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