

**15<sup>TH</sup>, 16<sup>TH</sup>  
DECEMBER  
2022**



**11<sup>TH</sup> ANNUAL  
WORKSHOP OF  
YOUNG RESEARCHERS**

# SCHEDULE

## 15/12

**9:00 Imdea Energy: Current Status and Action Plan 2023. David Serrano**

**9:30 1<sup>st</sup> predoc session. Chairs: Javier Dufour / Rebeca Marcilla**

|              |                              |   |
|--------------|------------------------------|---|
| <b>9:30</b>  | CAMPOS CARRIEDO, FELIPE      | Lessons learned from exploring the material criticality of two Fuel Cell and Hydrogen products  |
| <b>9:37</b>  | MORALES PALOMO, SERGIO       | Zero to hero! Unraveling the secrets behind the adaptative evolution of <i>Yarrowia lypolitica</i> (•ONLINE)  |
| <b>9:44</b>  | PAGANO, MAURIZIO             | Insights on the acetic acid pretreatment of wheat straw: benefits for the bio-oil production by pyrolysis   |
| <b>9:51</b>  | ALVÁN ARRASCÚE, DIEGO ARNOLD | Phenazine Conjugated Polymers: an effective design strategy for synthesis and electrochemical performance in acid and basic media   |
| <b>9:58</b>  | GARCÍA EQUIZABAL, ALEJANDRO  | Transition metal doping of $\text{BiVO}_4$ for photoelectrochemical water splitting SU-101. A robust and efficient MOF for adsorption and photodegradation of EOCs in water |
| <b>10:05</b> | CHACÓN GARCÍA, ANTONIO J.    | Battery Sizing and Location for Provision of Network Support Services (•ONLINE)   |
| <b>10:12</b> | JANKOVIC, NJEGOS             | Performance of different metal supported catalysts for tandem process: pyrolysis and hydrodehalogenation of WEEE plastic  |
| <b>10:19</b> | AMODIO, LIDIA                | Polycatechol and Conductive Polymer hybrids for All-Organic batteries   |
| <b>10:26</b> | CÁMARA, OUSMANE              | Magnetic composites of nanoMOFs and magnetic nanoparticles for drug delivery  |
| <b>10:33</b> | PICCHI, DARINA FRANCESCA     | All-Polymer symmetric deionization cell: a new concept for ion capture  |
| <b>10:40</b> | FOMBONA PASCUAL, ALBA        |   |

**10:47**



*Coffee break*

**2<sup>nd</sup> predoc session. Chairs: Patricia Horcajada / Freddy Oropeza**

|              |                           |   |
|--------------|---------------------------|---|
| <b>11:30</b> | GRIECO, REBECCA           | Towards sustainable batteries: a new Aluminium-organic porous polymer battery                           |
| <b>11:37</b> | MAZUELO SANTOS, TANIA     | New BOPHY-based Covalent Organic Framework for solar fuels production                                   |
| <b>11:44</b> | RINCÓN LUCAS, IRENE       | Metal-Organic Frameworks as a novel tool for water remediation  |
| <b>11:51</b> | MOUVEVELIS, DIONYSIOS     | Voltage profile improvement in distribution networks with distributed generation                        |
| <b>11:58</b> | DE LA CALLE PÉREZ, DANIEL | Performance of different dendritic zeolites in polyethylene cracking                                    |
| <b>12:05</b> | SERRANO NIETO, RUBÉN      | Novel Phosphonate Metal-Organic Frameworks as catalysts   |
| <b>12:12</b> | MIREHBAR, SEYEDKEYVAN     | From battery to wastewater treatment: fury road   |
| <b>12:19</b> | GONZÁLEZ DÍAZ, CARLOS     | Activated carbons from different origin lignocellulosic residues to the removal of NO from polluted air |

[Link to stream](#)



# SCHEDULE

## 15/12

### 1<sup>st</sup> postdoc session. Chairs: Elia Tomas / Javier Feroso

|       |                          |  |
|-------|--------------------------|--|
| 12:30 | CRUZ PRIETO, PEDRO LUIS  | Conceptualization of an environmental dashboard to benchmark technical aspects in emerging technologies                                  |
| 12:45 | NAVALPOTRO MOLINA, PAULA | Aqueous Membrane-Free Batteries: one step further  |
| 13:00 | GÓMEZ MENDOZA, MIGUEL    | Transient Absorption Spectroscopy as a valuable tool to investigate chemical processes   |
| 13:15 | BIGLIONE, CATALINA       | High proton conductivity of a novel Bismuth Phosphonate MOF  |
| 13:30 | ALONSO GINER, ELENA      | Tuning the properties of dendritic ZSM-5 zeolite synthesized by protozeolitic nanounits functionalization with amphiphilic organosilanes |
| 13:45 | BILDIRIR, HAKAN          | Preparation of (Porous) Organic electrode materials for battery applications   |
| 14:00 | FERNÁNDEZ RUIZ, CARLOS   | Using MOFs for hydrogenation applications  |

14:15



### 2<sup>nd</sup> postdoc session. Chairs: Milan Prodanovic / Tania Hidalgo


|       |                              |   |
|-------|------------------------------|---|
| 15:30 | PATIL, NAGARAJ               | Polyimide organic electrodes for practical Li-ion batteries                         |
| 15:45 | NARANJO SÁNCHEZ, TERESA      | Towards Artificial Photosynthesis: novel Covalent Organic Framework based on BODIPY |
| 16:00 | GRESES HUERTA, SILVIA        | Warning indicators of microalgae anaerobic digestion failure                        |
| 16:15 | PINILLA, SERGIO              | Additive manufacturing of Lithium-ion batteries                                     |
| 16:30 | GARCÍA TECEDOR, MIGUEL       | Novel photoelectrodes for Solar Fuels generation (•ONLINE)                          |
| 16:45 | CARRASCO GARRIDO, SERGIO     | Hafnium-porphyrin MOF for CO <sub>2</sub> cycloadditions                            |
| 17:00 | ALONSO DONCEL, MARÍA DEL MAR | Unveiling the synthesis mechanism of dendritic ZSM-5 zeolites                       |
| 17:15 | HERRERO, ALEJANDRO           | New processes for nitrogen fixation   |

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# SCHEDULE

## 16/12

### 3<sup>rd</sup> predoc session. Chairs: José González / Mariam Barawi

|       |                            |  |
|-------|----------------------------|--|
| 9:00  | D'SOUZA, DAVID             | Pressurised gas receivers: from numerical predictions to experimental findings   |
| 9:07  | LAGO CAMBEIRO, ADRIÁN      | Reactor configuration role in volatile fatty acids production. Decoupling HRT and SRT                                      |
| 9:14  | PEDRAZA GRANADO, EDUARDO   | Development of a new aqueous Redox Flow Battery  |
| 9:21  | PALENZUELA REBELLA, SANDRA | Nanostructured Conjugated Porous Polymers: to photoelectrocatalysis and beyond   |
| 9:28  | LELOUCHE, SORRAYA          | AuNP@MOF nanocomposite   |
| 9:35  | RODRÍGUEZ ORTEGA, PABLO    | Damping subsynchronous interactions in electrical distribution systems   |
| 9:42  | LÓPEZ REGAÑA, JULIO        | Circular Economy of real WEEE plastics: exploring the way of dehalogenation by catalytic pyrolysis using modified zeolites |
| 9:49  | SÁNCHEZ, GABRIEL           | Promising materials for the removal of disinfection by-products in drinking water: Scale-up and prototype in pilot plant   |
| 10:00 |                            |  <i>Coffee break</i>                    |

### 3<sup>rd</sup> postdoc session. Chairs: Patricia Pizarro/ Enrique G. Quismondo

|       |                              |  |
|-------|------------------------------|--|
| 10:30 | SOUZA, ADRIANA               | Dehydrogenation of propane to propylene over Pt and Ga MFI zeolites  |
| 10:45 | RUIZ MARTÍNEZ, DÉBORA        | Photo-rechargeable Solar Flow Batteries ( • ONLINE)                  |
| 11:00 | CARRAO DA CONCEIÇÃO, RICARDO | Automatic soiling assessment monitoring and cleaning techniques      |
| 11:15 | VÁZQUEZ OVIEDO, ERICK I.     | Stability Analysis of Limit Cycle Oscillators and Applications       |
| 11:30 | CUETO NAREDO, JENNIFER       | Different catalytic routes to convert wastes into valuable chemicals |
| 11:45 | ÁLVAREZ, INÉS                | The VIRMOF tale: MOFs meet SARS-CoV-2 at IMDEA                       |
| 12:00 | <b>Voting for awards</b>     |  |

[Link to stream](#)

# POSTER

## Poster title

|                               |   |
|-------------------------------|---|
| ABELLEIRA GONZÁLEZ, SANTIAGO  | Modelling of microbial oil production from organic waste for environmental evaluation                                 |
| MARTÍNEZ RAMÓN, NICOLÁS       | Impact of new technologies in waste management systems  |
| AFECTO GONÇALVES, MANUEL JOÃO | The use of mixed-culture anaerobic fermentation to transform wastes into added-value products                         |
| DE VICENTE MARTÍNEZ, MARTA    | Adaptative evolution for high propionic and butyric acids consumption and lipid accumulation                          |
| GUTIÉRREZ LÓPEZ, GUILLERMO    | Immune/chemo active nanoMOFs for pulmonary multitherapy against COVID19   |
| AVENDAÑO CAIZA, MARCO VINICIO | Coordination of electrical generators and loads for providing auxiliary services in electrical distributions networks |
| DÍAZ GARCÍA, AINHOA           | Hydrothermal liquefaction of microalgae   |
| MURIEL OLAYA, MARÍA MILAGROS  | Computational design of organic based redox flow batteries  |
| MORTERA CANGA, ALICIA         | Opportunities and challenges in integrating electrical engineering into long term energy planning                     |