

# Thursday's NanoSpin-off

## TALKS

October 28<sup>th</sup>, 17h

ONLINE by ZOOM and  
PRESENTIAL (Sala de Grados.  
Facultad de Ciencias)

Zoom



Cátedra **SAMCA**  
de Nanotecnología  
Universidad Zaragoza



**INMA**  
INSTITUTO DE NANOCIENCIA  
Y MATERIALES DE ARAGÓN



Universidad  
Zaragoza

TALK

## Immaterial. Materials discovery and molecular engineering of MOFs



SPEAKER

**Prof. David Fairen-Jimenez**

CSO and co-CEO of Immaterial

PRESENTER

**FRANCISCO BALAS NIETO**

INMA (CSIC-Universidad de Zaragoza). Department IQTMA (Unizar)

Immaterial was founded in 2015 as a spin-out of the University of Cambridge. We are experts in porous materials, commercialising a technology platform based on monolithic metal-organic frameworks (MOFs). MOFs are a class of super-adsorbent nanomaterials with global impact in different industries. We use our deep expertise in the design of porous materials to deliver solutions across applications ranging from hydrogen storage and purification to carbon capture. Our breakthrough came in 2014 when we learned how to synthesise MOFs not as powders but as 'monoliths'. Here, the material is better packed and without wasted weight, meaning we see leaps in both volumetric and gravimetric performance – often by over 100%. By overcoming this 'pelletisation problem' we unlock a huge back-catalogue of research spanning thirty years. We go further by standing on the shoulders of giants