

**BECAS DE COLABORACIÓN – JAE INTRO 2020
EN CENTROS DE EXCELENCIA SEVERO OCHOA – CSIC**

TÍTULO DEL PROYECTO:

**Two-dimensional molecular crystals with interest in clean energy
and environmental applications**

IP:

Carmen Ocal

**RESUMEN DE LA PROPUESTA:
(Máximo 500 caracteres)**

As opposed to van der Waals two-dimensional (2D) atomic crystals, as graphene, we propose obtaining 2D Covalent Organic Frameworks (2D-COFs), new synthetic porous structures with great interest for applications such as gas storage, separation, catalytic degradation of pollutants and optoelectronics. An innovative atomic layer injection system will be used for depositing non-volatile molecular precursors in vacuum. Method: pulsed valve to inject micro-drops of the molecular solution in ultra clean conditions and use Scanning Tunneling and Atomic Force Microscopy to correlate the 2D-order of the molecular frameworks with their properties.