

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

**TÍTULO DEL PROYECTO:**

**Development of new polar oxynitrides**

**IP:**

**Amparo Fuertes**

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

The project aims at the search of new oxynitrides of transition metals with distorted environments and ordering of anions that may lead to long-range ordered electrical dipoles and ferroelectricity. An example of our research in this topic is the non-centrosymmetric polar oxynitride perovskite  $\text{BaWON}_2$  that we have recently discovered (see J. Oró-Solé, J. Fontcuberta, A. Fuertes et al, *Angew. Chem. Int. Ed.* 10.1002/anie.202006519, <https://doi.org/10.1002/anie.202006519>). The student will be trained in non-conventional synthetic methods at high temperatures with strict control of atmosphere and other parameters in order to produce the targeted oxynitrides, in the determination of crystal structures by diffraction methods and in the study of the physical properties of the new materials.