

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

**TÍTULO DEL PROYECTO:**

**Producción y caracterización de nanocelulosa bacteriana deuterada.**

**IP:**

**Anna Laromaine/ Amanda Muñoz**

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

Bacterial nanocellulose (BNC) is a versatile material that is used for epithelial treatment, tissue engineering, and as a food supplement. Its impacts on the gastrointestinal tract have not yet been fully described. We propose *Caenorhabditis elegans* (*C. elegans*) as an animal model to study the biointeraction of this fiber with the intestine of this animal. *C. elegans* is an invertebrate worm with 60% genetic homology to humans. As both *C. elegans* and BNC are transparent, we will use deuterated BNC to study the biointeraction of BNC along *C. elegans*' intestine using chemical characterization techniques such as Raman Spectroscopy or FT-IR spectroscopy.

Student will learn to work with bacteria to produce and characterize deuterated bacterial nanocellulose. Additionally, student will study the nano-bio interaction with the worm.

Work in a multidisciplinary team at the interface materials science- biology.