

# Expressions of Interest for the submission of Marie Skłodowska-Curie Actions- Postdoctoral Fellowships in Structural and Physical Determinants of Complex Virus Assembly

- **OFFER DEADLINE**

30/06/2022 00:00 - Europe/Brussels

- **EU RESEARCH FRAMEWORK PROGRAMME**

HE / MSCA

- **LOCATION**

Spain, Madrid

- **ORGANISATION/COMPANY**

CNB-CSIC

- **DEPARTMENT**

Project Management

[CNB-CSIC](#) is interested in receiving Expressions of Interest of potential candidates for the [Marie Skłodowska - Curie Postdoctoral Fellowships \(MSCA-PF\) 2022](#)

Successful candidates will work under the supervision of **Carmen San Martín**, whose group [Structural and physical determinants of complex virus assembly](#) investigates the physical and structural principles governing complex

virus assembly. As a model system we use adenovirus (AdV), a specimen of interest in both basic virology and nanobiomedicine. AdVs are human pathogens with significant morbidity in immunocompromised individuals, as well as extensively used experimental therapeutic vectors. Understanding AdV assembly, disassembly and host interactions is crucial to develop both antivirals to treat AdV infections, or improved AdV vectors for gene therapies. Further, AdVs are representatives of the PRD1-AdV lineage, a large group of viruses including some as complex as African Swine Fever Virus or Mimivirus, which use the double jelly roll as their capsid building block. We are currently opening new research lines on the structure and assembly of marine viruses belonging to the PRD1-AdV lineage. These studies have the potential of finding new structures and assembly processes, broadening our view of the diversity and evolution of these biological entities with increasingly recognized abundance and ecological relevance.

### **Description of MSCA Post-doctoral fellowships**

The postdoctoral fellow will join an interdisciplinary group within the [Department of Macromolecular Structures](#), with access to state-of-the art techniques, from molecular virology to structural determination by cryo-electron microscopy. **Possible projects** include the *structural characterization of adenovirus mutants or proteins relevant to different stages of assembly; adenovirus assembly or disassembly intermediates either isolated or in the cell; adenovirus in complex with host factors; or other candidate-originated projects within the same general subject*. The Macromolecular Structure Department provides a rich multidisciplinary environment, with groups devoted to proteomics, biocomputing, protein design, nanosciences and structural analysis of biological macromolecules at all levels of resolution. The CNB-CSIC houses advanced [cryo-electron microscopes for high resolution](#) studies of macromolecular complexes, either purified or in situ within the cell context. In collaboration with experts in physical virology, we also apply atomic force microscopy to understand the mechanical properties of virus particles and their relation with the infectious cycle. International collaborations already established in the group provide an excellent chance to visit other laboratories, learn new techniques and develop the ability to interact in the worldwide scientific context.

We are interested in incorporating candidates with an expertise in either:

- Molecular virology

- Structural analyses by cryo-EM, cryo-ET or CLEM
- Protein modeling and design

The MSCA scheme offers a highly competitive salary (5.238 €/per month - including employer and employee social security contributions-, plus additional family allowance of 660 €/per month) and research costs (1.000 €/ per month) up to 24 months.

### **Eligibility rules**

The mobility rule of MSCA PF requires:

- The candidate has not resided or carried out their main activity (work, studies, etc.) in the country of their host organization (Spain) for more than 12 months in the 3 years immediately before the call deadline (14/19/2022).
- Moreover, only candidates with research experience up to 8 years postdoc from the date the PhD degree was granted are eligible (with possible exceptions).

### **How to apply**

Please address inquiries to [carmen@cnb.csic.es](mailto:carmen@cnb.csic.es), including:

- Checklist showing compliance with the call eligibility rules
- Full CV and names of two possible referees
- Expression of interest letter with a short summary of the intended project (2 pages max)

Proposals will be preselected on the basis of internal evaluation.