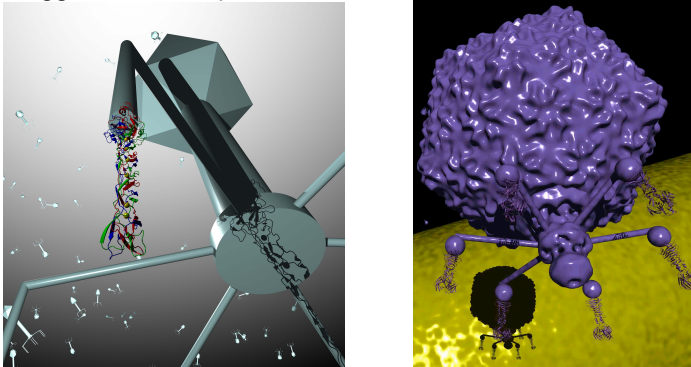


Postdoctoral project (Juan de la Cierva contract at the CNB-CSIC, Madrid, Spain)

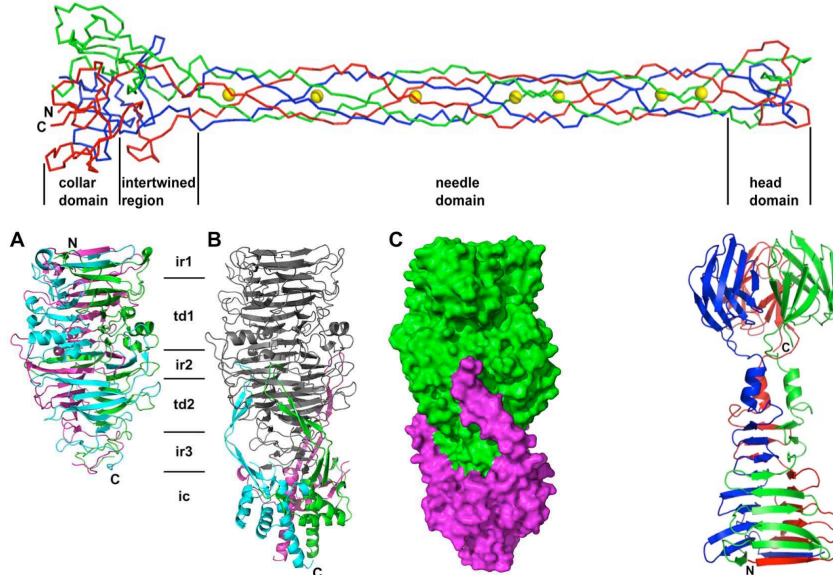
Our group (wwwuser.cnb.csic.es/~mjvanraaij) is looking for motivated postdocs to apply to a competitive call for one of 450 Spanish fellowships.

We are studying the host cell recognition of bacteriophage fibre and tailspike proteins. Bacteriophage tail fibres may be used to detect bacteria, while their cell-wall degrading proteins may be used to weaken or kill them. The project aims to solve the high-resolution structures of these phage proteins by X-ray crystallography in complex with their binding partners and substrates. During the last few years we have solved the structures of the homotrimeric receptor-binding domains of the bacteriophage T4, T5 and T7 tail fibres - one of each of the *Myoviridae*, *Siphoviridae* and *Podoviridae*. Each of these proteins presented new folds and suggested which parts of the structure are involved in receptor binding.



Bacteriophages express enzymes during their infection cycle that target their host bacteria in different ways. Examples are receptor-binding tailspikes that hydrolyse outer cell wall components so the phage can access the membrane in the first step of infection, and endolysins to digest the bacterial peptidoglycan layer in order for the bacteriophage progeny to escape from the cell. During the last year, we have solved the structure of the CHAP domain of the Staphylococcal lysin produced by bacteriophage K. Current targets are endolysins of several pathogenic bacteria. Related recent publications are:

- Garcia-Doval et al. (2015) *Viruses* **7**, 6424-6440.
- Sanz-Gaitero et al. (2014) *Virology* **471**, 113.
- Garcia-Doval & van Raaij (2012) *Proc Natl Acad Sci USA* **109**, 9390-9395.
- Bartual et al. (2010) *Proc Natl Acad Sci USA* **107**, 20287-20292.



Interested candidates with a recent doctorate degree (from 2011-2013 for the "Incorporación" variant, or 2014-2015 for the "Formación" variant) and a competitive publication record (at least one high-impact first-author publication), please send a full CV before January 10th (call deadline is 1 February 2016) to:

Mark J. van Raaij, CNB-CSIC, Madrid; <http://www.cnb.csic.es/~mjvanraaij>

E-mail: mjvanraaij@cnb.csic.es

Official call: <http://www.boe.es/buscar/doc.php?id=BOE-A-2015-13308>