

## **PhD Position in Materials Science at the University of Santiago de Compostela**

The position is available in the Soft Matter & Molecular Biophysics group (<http://alanine.usc.es>) to work in the design of interfacial films. This is a 4 year contract associated to the MICINN Grant MAT2011-25501.

### **Description**

The project would be developed at the Faculty of Physics of the University of Santiago de Compostela, at the Northwest of Spain, 100 km at the North of Portugal, under the supervision of Ángel Piñeiro and Juan M. Ruso. This project involves a number of experimental and computational techniques aimed to the design and characterization of interfacial films based on cyclodextrins. The contract will start in spring 2012.

### **Requirements**

- Degree in Physics, Chemistry or a related field obtained after January 1<sup>st</sup>, 2008
- Master degree in Materials Science or a related field
- Strong motivation and interest in the topic of this project
- Good level of English (spoken and written)

### **How to apply**

Interested applicants should send us their CV including full address, contact phone number and email address, as well as a short statement of ~150 words explaining their interest in this position.

### **Recent publications from our group**

- A Critical Approach to the Thermodynamic Characterization of Inclusion Complexes: Multiple-Temperature ITC Studies of Native CDs with SDS. Pilar Brocos, Xavier Banquy, Norma Díaz-Vergara, Silvia Pérez-Casas, Ángel Piñeiro, Miguel Costas. *Journal of Physical Chemistry B*, (2011), in press. [DOI: 10.1021/jp208740b](https://doi.org/10.1021/jp208740b)
- Hydrogenated/Fluorinated Catanionic Surfactants as Potential Templates for Nanostructure Design. Natalia Hassan, Juan M. Ruso, Ángel Piñeiro. *Langmuir*, 27 (2011), 9719–9728. [DOI: 10.1021/la2019346](https://doi.org/10.1021/la2019346)
- Mimicking Natural Fibrous Structures of Opals by Means of a Microemulsion-Mediated Hydrothermal Method. Natalia Hassan, Valeria Verdinelli, Juan M. Ruso, Paula V. Messina. *Langmuir*, 27 (2011), 8905–8912. [DOI: 10.1021/la201555f](https://doi.org/10.1021/la201555f)
- Self-assembling drugs: A new therapeutic strategy. Natalia Hassan, Juan M. Ruso, Alfredo González-Pérez. *Soft Matter*, 7 (2011), 5194–5199. [DOI: 10.1039/C0SM01529F](https://doi.org/10.1039/C0SM01529F)
- Surface Characterization and AFM Imaging of Mixed Fibrinogen-Surfactant Films. Natalia Hassan, Julia Maldonado-Valderrama, A. Patrick Gunning, Victor J. Morris, Juan M. Ruso. *Journal of Physical Chemistry B*, 115 (2011), 6304–6311. [DOI: 10.1021/jp200835j](https://doi.org/10.1021/jp200835j)
- Exploring the conformational dynamics and membrane interactions of PorB from *C. glutamicum*: a multi-scale molecular dynamics simulation study. Ángel Piñeiro, Peter J. Bond, Syma Khalid. *BBA-Biomembranes*, (2011), [DOI:10.1016/j.bbamem.2011.02.015](https://doi.org/10.1016/j.bbamem.2011.02.015)
- Similarities and differences between Cyclodextrin-Sodium Dodecyl Sulfate Host-Guest Complexes of Different Stoichiometries: Molecular Dynamics Simulations at Several Temperatures. Pilar Brocos, Xavier Banquy, Norma Díaz-Vergara, Silvia Pérez-Casas, Miguel Costas, Ángel Piñeiro. *Journal of Physical Chemistry B*, 114 (2010), 12455-12467. [DOI: 10.1021/jp103223u](https://doi.org/10.1021/jp103223u)
- Cyclodextrin-Based Self-Assembled Nanotubes at the Water/Air Interface. Jorge Hernández-Pascacio, Cristina Garza, Xavier Banquy, Norma Díaz-Vergara, Alfredo Amigo, Salvador Ramos, Rolando Castillo, Miguel Costas, Ángel Piñeiro. *The Journal of Physical Chemistry B*, 111 (2007), 12625-12630. [DOI: 10.1021/jp076576t](https://doi.org/10.1021/jp076576t)
- On the Characterization of Host-Guest Complexes: Surface Tension, Calorimetry, and Molecular Dynamics of Cyclodextrins with a Non-ionic Surfactant. Ángel Piñeiro, Xavier Banquy, Silvia Pérez-Casas, Édgar Tovar, Abel García, Alessandra Villa, Alfredo Amigo, Alan E. Mark, Miguel Costas. *The Journal of Physical Chemistry B*, 111 (2007), 4383-4392. [DOI: 10.1021/jp0688815](https://doi.org/10.1021/jp0688815)

### **Contact**

[Angel.Pineiro@usc.es](mailto:Angel.Pineiro@usc.es) and [JuanM.Ruso@usc.es](mailto:JuanM.Ruso@usc.es)

Web site: <http://alanine.usc.es>