

## 1º ESO

## Experiencias: ESTUDIO DEL SUELO



La actividad propuesta por la Dra. Ruth García de la Calle en colaboración con Paola Alpresa Gutiérrez, ambas miembros colaboradoras del SRUK/CERU, consistió en una pequeña presentación de introducción al tema de la contaminación de suelo y aguas subterráneas, y a continuación una serie de prácticas a realizar por el alumnado de 1º E.S.O. Esta última fase contó con la colaboración activa de todo nuestro alumnado llevando a cabo diversas actividades experimentales para que entendieran cómo fluye el agua en el subsuelo, la calidad del agua que bebemos y qué consecuencias tienen actos como el vertido de residuos al suelo. Asimismo, al conducir la sesión en grupos, pudieron también aprender sobre cómo fluye la sangre por las arterias y sus consecuencias en las enfermedades del corazón de la mano de Paola Alpresa. Finalmente, el alumnado también tuvo la ocasión de mantener una conversación directa con las colaboradoras, en la que le preguntaron sobre su trabajo diario como investigadoras.

**Ruth García de la Calle:****Biography**

She has a degree in Chemical Engineering from the University of Extremadura, MSc in Chemical Science (wet oxidation of PAH-contaminated soils) and MSc in Renewable Energies and Efficient Energy, all of them from the same university. Her doctoral thesis focused in more detail on the remediation of PAH-contaminated soil. She also collaborated with the Tampere University of Technology (Finland) as an exchange PhD student, to investigate at pilot scale the impacts of changing the operational parameters of in situ chemical oxidation (ISCO) on removal of aged PAHs from soil. She joined CL:AIRE in April 2013 thanks to a Marie Curie Experienced Researcher fellowship within the ADVOCATE Project. However, prior to this fellowship she was involved into the project of the Campus of International Excellence for the Efficient Management of Natural Hydrological Resources at the University of Extremadura. This included the setting up efficient mechanisms for the transfer of scientific and innovative knowledge to the public, promoting R&D results and project opportunities both for the business/industries and the University sectors.

**Current research**

As the Knowledge Transfer and Outreach Manager for the ADVOCATE project, Ruth's role is to implement an effective communication strategy within the network and beyond. The aim is to share knowledge between the partners, fellows and external parties, to develop the research dissemination and knowledge transfer activities which promote the fellows, research outputs and impact from the project, and to engage the public, industry groups and other interested parties in the science and technology innovation that is developed by the network. These activities will be coordinated and delivered within the framework of CL:AIRE and include a variety of communication and dissemination pathways, such as newsletters, technical bulletins, conference presentations at workshops, summer schools, national and international meetings, as well as web-based social media.

**Paola Alpresa Gutiérrez:****Biography**

I obtained my MSc in Aerospace Engineering from Universidad Politécnica de Madrid in 2007. Right after, and motivated to delve into certain scientific aspect of my degree, I specialised in Computation-Theory Astrophysics at Instituto Astrofísico de Canarias, where I happily graduated as the best student record in the year 2009. Having always in mind to become a lecture, I have worked as a predoctoral researcher at the Department of Theoretical Physics at Universidad Autónoma de Madrid and at the Fluid Mechanics Department of Universidad de Sevilla. Finally, I joined Imperial College London in June 2013 as a PhD student sponsored by Becas Talentia (Junta de Andalucía-Spain studentship).

**Current Research**

My main research interest is the study of the fluid behaviour from an analytical and a numerical point of view, and its applications to bioengineering problems. My current research focuses in the characterisation of fluid viscous forces exerted on the cell cultures under the influence of an orbital shaker motion; we investigate the effect of different types of flows on arterial cells. This study is part of a large programme carried out by Weinberg's lab that has the aim of understanding the critical factors in the development of the arterial disease atherosclerosis.