



PRINCIPE FELIPE

CENTRO DE INVESTIGACION

## The Future of Biomedical Research Lecture Series

### The transformative CRISPR-Cas9 technology: origins and applications

**Speaker:** Dra. Emmanuelle Charpentier

Max Planck Institute for Infection Biology, Department of Regulation in Infection Biology, Berlin, Germany.

The Laboratory for Molecular Infection Medicine Sweden (MIMS), Umeå Centre for Microbial Research (UCMR), Department of Molecular Biology, Umeå University, Umeå, Sweden.

Humboldt University, Berlin, Germany

**Date:** 10/07/2017 - 10:30h

**Place:** Salón de Actos CIPF

**Abstract:** The RNA-programmable CRISPR-Cas9 technology allows precise and efficient engineering or correction of mutations, modulation gene expression and marking DNA in a wide variety of cell types and organisms in the three domains of life. Because of its versatility and ease of design, this powerful technology has been rapidly and universally adopted for genome editing applications in life science research. It is also recognized for its promising and potentially transformative applications in biotechnology, medicine and agriculture. Charpentier will discuss the biology of the bacterial CRISPR-Cas9 adaptive immune system, and how study of this immune system lead to its repurposing as a powerful genome engineering technology that has revolutionized the life sciences.

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