

The first Industrial Thesis of the Fundación Cepsa Chair at the University of Huelva, Focuses on Innovation and Sustainability

- **The thesis, now in its third year, explores a novel method for the direct conversion of benzene into phenol and has already yielded results that are of considerable scientific interest.**
- **"Industrial" focus means that Cepsa is required to employ doctoral students directly**

The doctoral thesis, with an industrial focus, between the University of Huelva and Cepsa has entered its third year, targeted at the development of new strategies for the direct conversion of benzene into phenol.

Doctoral student Elena Borrego, with her research, seeks to decode an alternative way to produce phenol, a substance with vast applications, from aspirin to plastics, resins, and agriculture chemicals, which are produced at the Palos Chemical Plant, the second largest in the world.

At the moment, the process is multi-step, which could be simplified and brought down in energy costs, thus being sustainable. Due to this, Elena Borrego has developed a process for reducing energy costs by using water as the natural green solvent. Three researchers supervised the thesis: Jesús Lázaro, Director of the Department of Petrochemistry and New Materials at Centro de Investigación de Cepsa, and professors Ana Caballero and Pedro J. Pérez from CIQSO-University of Huelva.

In this type of industrial doctoral thesis, Cepsa, the company promoting the research, is required to directly hire doctoral students; the University of Huelva, on the other hand, co-finances salary costs as part of its Research and Transfer Policy Strategy. Additionally, the experimental studies have the financial support of the Fundación Cepsa Chair, which covers the costs of materials and reagents derived from the research through the Collaboration Agreement signed each year with University of Huelva.

The extensive experience of the CIQSO researchers joins the experience of Cepsa's Research Center in the oxidation of aromatic compounds to address this complex matter in the hopes of achieving progress, not only in scientific knowledge, but also in a potential industrial application of the knowledge gained. We anticipate that the dissertation of this Doctoral Thesis will take place next year, based on the results obtained thus far.

The University of Huelva emphasizes that its partnership with Cepsa allows for a constant transfer of knowledge, one of the most important values of the UHU, and is an essential instrument for the development of research and the training and employability of students.

The Fundación Cepsa Chairs

The Fundación Cepsa Chairs at the Universities of Huelva, Cádiz, Seville, and La Laguna, as well as the Polytechnic University of Madrid, are continually strengthened thanks to the contributions and involvement of the Company's professionals and the academic institutions committed to improving research, training, knowledge flow, and innovation.

Fundación Cepsa Chairs have allowed thousands of students to approach the labor world and bring university professors closer to the reality of the energy and chemical sectors. The exchange of knowledge and experience between Cepsa professionals, university teachers, and students has meant, for two decades, the professional enrichment of all of them. For all these reasons, today Cepsa is an outstanding partner of these universities.

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Fundación Cepsa

huelva@fundacioncepsa.com

Tel.: (34) 959 37 95 48 / 659 679 341

www.fundacioncepsa.com

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