

A perspective of Instruct@CEB-UMINHO

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The Centre of Biological Engineering (CEB in a PT acronym) is a research centre located at the University of Minho (Braga) and integrated in the Portuguese Science and Technology System. CEB combines fundamental science - Chemistry, Biochemistry, Microbiology, Molecular Biology – with Engineering Sciences to obtain value-added products or processes in the Food, Chemical, Biotech, and Environmental Industries. CEB is a unit aiming to be a strategic infrastructure for the development of R&D and innovation policies in the areas of Biotechnology and Bioengineering, Biomaterials, Biomedical and Life Sciences, Environmental and Agricultural Sciences.

Currently CEB aggregates 130 PhD Researchers (100 integrated and 30 collaborators) of which 23 are faculty members of the University of Minho and 14 are faculty scientists. Core research is allocated to 3 interdisciplinary thematic areas that cover the molecular, cellular and process scales, viz.:

- Industrial and Food Biotechnology and Bioengineering
- Environmental Biotechnology and Bioengineering
- Health Biotechnology and Bioengineering

The CEB research impact into industry, with translation of technology into the market, is also a driving force for CEB researchers and this has been accomplished/consolidated through R&D projects in consortium and launching of more than 13 spin-off and startup companies.

Internationalization is also an important issue in CEB's activities. CEB has established a network of collaborations all over the world that led to the development of joint research projects, joint academic programs (e.g. MIT-Portugal Program), exchange of students and scientists including joint thesis supervision. CEB attractiveness is recognized by hosting researchers from 36 different nationalities.

Here I will identify examples of potential utilization of Instruct by CEB members. For example in

- *Surface Plasmon Resonance (SPR) to obtain Binding constants (Kd). [Instruct: Macromolecular Interactions - SPR]*
- *Protein Production [Instruct: Protein Production – Yeast Expression / Library methods for protein expression]*
- *Complex chemical structures characterization. [Instruct: Magnetic Resonance techniques – NMR]*
- *Electron microscopy including molecular electron microscopy*
- *Other applications in the food technology and health will be also presented.*

More important than our potential interests, my aim is to fully understand the potentialities of Instruct and approach them to the CEB community.