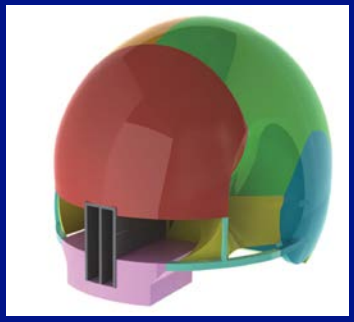
ENGINEERING AND ENVIRONMENT

TECHNOLOGY OFFER

DESIGN AND 3D RECONSTRUCTION OF THE HUMAN SKULL APPLYING THE GEOMETRIC ABSTRACTION METHOD (Y-CR@ANIUM)

Deaths of motorcycle drivers caused by traffic accidents account up to 20% of the total. Safety measures such as helmets are key elements. The biomechanical investigation of the human skull allows us to interpret cranial fracture patterns in accidents aiming to improve protective equipment. The UdG proposes a new 3D skull model to predict cranial fracture patterns.



TECHNOLOGY DESCRIPTION

The Y-Cr@nium technology consists of a 3D geometrical model that systematizes the 22 cranial bones. It allows to demonstrate what is the mechanical behavior of the skull in case of impact and therefore changes the paradigm when designing cranial prostheses and protective equipments such as motorcycle helmets.

TARGET MARKET

- Applicable in the helmet manufacturing industry through design studies.
- Applicable in the health sector for skull virtual simulation purposes.
- Applicable in the dummies manufacturing industry, making the design of their heads suitable to real skull impacts.

COMPETITIVE ADVANTAGES

- It allows to study the pattern of damage according to the localized impact, allowing a better treatment.
- Non-invasive method that allows multiple trials avoiding high cost in time or material.
- Several applications in different areas such as industrial (dummies for simulations, helmets) and/or medical (new treatment guidelines).

TIME-TO-MARKET

The technology is in the biomechanical bahaviour stage

DEAL SOUGHT

Know-How license agreement (Design).
Collaboration contract for R&D&I in the field of cranial protection equipment and prosthetics.

RESEARCH GROUP

Clinical Anatomy, Embryology, Neuroscience and Molecular Oncology (NEOMA).

CONTACT

Knowledge Transfer Unit
Tech Transfer Office (OITT) - UdG
valoritzacio@udg.edu
+34 972 41 98 65