



Open call for applications for a research project within the framework of LEONARDO DA VINCI or ERASMUS Mobility Programs, entitled “**HELMVENT 1.0 – Numerical analysis on the ventilation performance of bicycle helmets**”, under the following conditions:

Duration and funding: The project will have an initial duration of 9 months (minimum 1 semestre) with a predicted starting date of September 2012 (or February 2013; dates are flexible), and a possible extension up to a total period of 12 months (to be discussed). In addition to any grant offered by the sending institution (under LEONARDO DA VINCI or ERASMUS Mobility Programs), the host institution (CeNTI) will offer a monthly allowance of 250€ during the agreed duration of the project.

Academic Background: Applicants should be last-year students or possess a Master degree (or higher) in Chemical Engineering, Mechanical Engineering, Biophysics, Mathematics or related areas, with particular interest for fluid mechanics, heat and mass transfer and simulation/programming work. Previous experience in programming or numerical simulation (with FLUENT, COMSOL, or similar) is preferable but not mandatory.

Project outline: The use of bicycle helmets is known to depend on many factors, among which the thermal comfort perception of the cyclist wearing the helmet. For that reason, it is important to study the ventilation occurring in bicycle helmets in order to identify the geometries that are more relevant for the “cooling” effect. Within this project, CFD platforms/tools will be used to study numerically the fluid flow and the heat and mass transport phenomena occurring across different helmets. The research work will be developed in the Products Characterisation Laboratory at CeNTI (Centre for Nanotechnology and Smart Materials).



Required documentation: Applications should be sent by email to the contact given below. The applications should mention the reference HELMVENT 1.0 and include: 1) application letter, 2) Curriculum Vitae, 3) academic degree certificate (if applicable) and 4) list of completed curricular subjects with associated classifications.

Applications should be sent by email to:

Dr. Tiago Sotto Mayor (tsottomayor@centi.pt)
Products Characterisation Laboratory
Centre for Nanotechnology and Smart Materials
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