UNIVERSITÀ DEGLI STUDI FIRENZE

MOTOR-IST

SEVENTH FRAMEWORK PROGRAMME

Marie Curie Actions
Human resources and mobility

OPEN POSITION IN THE FIELD OF SAFER MOTORCYCLING

MOTORIST (Motorcycle Rider Integrated Safety) is an **Initial Training Network (ITN)** Nr. 608092, funded under the FP7 Marie Curie programme of the Commission. **Duration:** Feb. 1, 2014 - Jan. 31, 2018.

BACKGROUND: The aim of the research activities within the project MOTORIST is to make the use of Powered Two Wheelers (PTWs) safer in order to reduce crash occurrence where possible, and minimise crash consequences in terms of mitigated injuries sustained by the users. The project is divided in three work packages (WPs) addressing specific - related though - safety goals. The first work package focuses on the improvement of rider's skills by identifying a set of training strategies. These strategies will be derived from the analysis of in-depth accident data and from an improved knowledge of typical rider behaviours in critical riding situations. The second work package aims at developing advanced safety systems that improve the interaction between the rider and the PTW by introducing novel techniques of modelling of the rider, and taking account of the improved knowledge on the rider's behaviour carried out in this project. The third work package addresses the circumstance of inevitable crash by developing personal protective equipment to protect the riders, given the inputs of typical kinematic conditions of rider and vehicles at impact obtained from in-depth accident data. The expected results of this project are a set of effective rider training guidelines, safety system concepts implemented on PTWs and improved personal protective equipment, and accompanying standards. These results will be at disposal of the PTW industry partners for their product development processes, and of other stakeholders to improver riders' education on the safety topic.

CONSORTIUM: MOTORIST is formed by a group of participating hosts, combining leading education and research institutions as well as industrial enterprises in 6 countries of the EC. Thus the researchers will take part in both the scientific research and in the practical application of new methods for testing and simulation. They will certainly profit from this extended international experience for a subsequent academic or industrial career path.

COORDINATOR: The project is coordinated by **UNIFI** (University of Florence), Florence (I). The Project Coordinator of MOTORIST is **Prof. Marco Pierini**, marco.pierini@unifi.it

OBJECTIVES: The research of MOTORIST ITN will focus on making PTW use safer, through a clear strategy that will be pursued according to the following specific objectives:

- Firstly, improvements on PTW safety will be sought by enhancing and optimizing current methods for rider training, with special attention to young riders (who are most likely to be involved into accidents) and elderly riders (to take account of the increasing mean age in Europe). In fact, riders are fundamental actors for any road safety improvement and they significantly influence the probability of accidents to happen with their risk assessment, decision making and control skills.
- Secondly, safety will be sought by developing active safety systems that improve the interaction between the rider and the PTW, with particular attention to the urban environment (where the PTW use is more prevalent and where traffic scenarios are more complex).
- Thirdly, addressing unavoidable crashes, personal protective equipment for the rider will be developed, supported by an improved knowledge of the circumstances at crash obtained from real-world crash data.

MOTORIST will use a multidisciplinary approach of rider behaviour, training, active safety and passive safety. The resulting expertise, training methods, and PTW innovations will be of interest to stakeholders active in rider training activities, and will bring fundamental links to motorcycle and motorcycle components industries, since design improvements to PTWs and their related products are foreseen.

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MARIE CURIE ELIGIBILITY CRITERIA – in short:

- **Experienced Researcher (ER):** ER must, at the time of recruitment by the host organisation, be in possession of a doctoral degree or have at least four years of full-time equivalent research experience. In ITN, experienced researchers must also, at the time of recruitment by the host organisation, have less than five years of full-time equivalent research experience.[1].

The MOTORIST consortium is looking for an ER for the duration 20 months focusing on the activities of WP1 (Rider training strategies).
Objectives of WP1*: Identification of PTW rider skills, knowledge and attitudes that need to be improved to reduce accident risks; Development of training objectives, strategies, and technologies for the training of riders specifically for the PTW usage in two environments: a prototype training vehicle for on-the-road training tests and a simulation test rig with a virtual environment. Evaluation of the training methodologies and estimation of the potential reduction of accidents associated to a possible wide-range application of the training methodologies.*

CANDIDATE PROFILE: The research is highly multidisciplinary. The candidate should have a degree in Psychology or Engineering and an adequate mathematical and computational scientific background.

- Traffic Psychology
- Road Safety
- Experience with testing involving human subjects
- Experience with on-road experiments and/or driving simulators
- All members of the network are equal opportunity employers, both female and male candidates are invited to apply.

The research activities will mainly be carried out at the University of Florence, Italy with periods of secondment at Siemens Industry Software NV located in Leuven, Belgium, and at TU Delft, Delft The Netherland.

APPLY NOW!

Application Deadline: June 5th, 2015

Targeted Start Date: September 1st, 2015

APPLICATION: To apply, please send a **detailed CV** together with a **letter of motivation** and **names of reference(s)** to

Prof. Marco Pierini - marco.pierini@unifi.it
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The remuneration will be in line with the EC rules for Marie Curie grant holders and consists of a salary augmented by a net mobility allowance. http://cordis.europa.eu/fp7.

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[1] The research experience includes the period since gaining a university degree giving the candidate access to doctoral studies (the degree must entitle the holder to embark on doctoral studies, without having to acquire any further qualifications). Among others, following criteria apply for eligibility:

- at the time of appointment, the researcher may not have resided or carried out her/his main activity in the country of the hosting partner for more than 12 months in the 3 years immediately prior to her/his appointment