



## Towards Integrated Safety for Powered 2- Wheelers

ISSUE 1 – June 2008

### Editorial

by Ugo Galvanetto

Dear Partners of the MYMOSA network and dear all,

When you read this first MYMOSA Newsletter we will be about a year and a half into the 4-year project and I am really happy with the progress that we are making. The newsletter is not only a way of exchanging information within the network but also a window we open on our activities for all members of society interested in motorbike safety: motorbike manufacturers, manufacturers of personal protective equipment, riders' groups, policy makers etc.

First of all I want to introduce the network: MYMOSA stands for MotorcYcle and MOtorcyclist SAfety. It is a European network of the Marie Curie framework (<http://cordis.europa.eu/mariecurie-actions/home.html>)

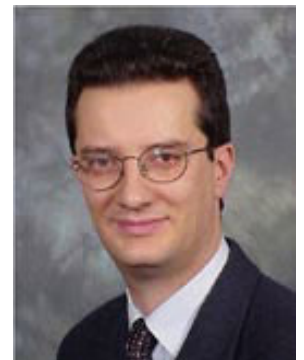
Fourteen partners are involved in the network:

- Imperial College London (UK)
- University of West Bohemia (CzR)
- L.M. University Munich (D)
- University of Florence (It)
- University Louis Pasteur (Fr)
- TNO (NL)
- TRL (UK)
- IBEO (D)
- Altair Development France
- Dainese SpA (It)
- Cellbond Ltd (UK)
- LMS international (Be)
- DEKRA (D)
- Uniresearch (NL)

All partners are working on different aspects of motorbike safety and are training 15 young researchers of different countries. Two of them will introduce themselves and their

work in the present issue Ioannis Symeonidis and Pedro Talaia. More information on the network is given at the end of the newsletter and on our web page at [www.mymosa.eu](http://www.mymosa.eu).

I wish all young researchers and partners of MYMOSA an exciting and productive time working in our network to increase the level of safety for all European motorbike-riders.



**Ugo Galvanetto**  
Senior Project Manager  
Imperial College London

### Hallo aus München

by Ioannis Symeonidis

My name is Ioannis Symeonidis. It's been already a year from the first time I came in Ludwig Maximilians Universität for the interview of the Early Stage Researcher's position 10 in the project MYMOSA. After a warm welcome from Steffen Peldschus, I met Drs. Erich Schuller, Nobert Praxl and Jiri Adamec. The interview turned out well and after a short time in Thessaloniki I was happy to return and start my PhD. There I met the whole biomechanics team that unfortunately I can not present person by person. I also met Claudio Brenna a PhD student from the Università di Firenze, working in "PISa", another European project strongly related to MYMOSA.



During the next weeks we were already measuring kinematics and muscle activity of the motorcycle rider for "PISa". This way I became familiar with the measuring equipment we have to our disposition. After some months ESR 5, the MYMOSA PhD student Güven Kavadarli arrived to study the "human machine interface of motorcycles".

September came and we had the first MYMOSA meeting in Imperial College in London. During this meeting, we planned the research inside each work package and the secondments in the different participating institutes across Europe. Also, a course in biomechanics took place with many interesting presentations from highly specialised individuals. The network of enthusiastic ESRs and researchers coming from many different countries with different background and research areas but with the same main target, "Motorcycle Safety" was a reality.

Some days after, I had my first secondment in Université Louis Pasteur in Strasbourg. There, I met researchers working in different areas relating biomechanics and safety, this way I gained useful knowledge for my PhD. Unfortunately, my input in their work was not very important since my previous research was not directly related to their current interests, but future experiments were discussed relating my PhD subject "neck muscle activity" that could benefit the research done in ULP also. Furthermore, I had the chance to participate in their way of work and fun and had many pleasant moments, during this small period of time.

Now, the main experiments in my PhD start and their preparation is our highest priority. In this first year of the project, I think that the targets of the MYMOSA project are starting to be fulfilled:

- the work plan of the project becomes reality.
- the network is in full scale cooperation for the advancement of the project.
- the educational targets of the ESRs are met with interesting courses and workshops
- (motorcycle accidents course from DEKRA).

Finally, I want to add that it is a pleasure to work with all the people related in the project and that every meeting apart from its professional status has also a very friendly atmosphere.



**Madymo model representing a human facet model and the human-motorcycle interface geometry**

## From Bohemia

by Pedro Talaia

In my young life associated with research, the privilege to collaborate in one project like MYMOSA is an honour and a challenge. The experience that we can retain from the teamwork is great and something to be grateful for. Since I am from a Mediterranean country, Portugal, the life experience that comes from living in a foreign country like Czech Republic allows me more than sharing a new culture, it means a better understanding of concepts like integration and Europe.

The university where I am integrated, University of West Bohemia, has great conditions, giving me a great opportunity to grow up in my scientific maturity. The friendship between colleagues and the accessibility of the professors is great. Indeed, one of the excellent points that I found is the close relationship between the academy and the surrounding community, with special interest from the industrial sector, which is largely present in the region.

Remember that I got my base degree in Mechanical Engineering, specialisation in automation and my master is in mechanical engineering with specialisation in product development, and taking in account my actual work that involves more than that, it has been great to absorb new knowledge, and to see old problems being seen in different perspectives. Aspects concerning the movements of the human body, interaction between human, PTW and environment are examples of new knowledge that I am now acquiring.



Speaking about MYMOSA by itself, first of all, has a great purpose. The possibility to work in a team to help in the improvement of our safety is always a pleasure. The general structure of the teams gives a good notion of what we can expect in the end: a good set of tools to improve the PTW driver safety in several perspectives.

Another great improvement is the fact that we are in proximity of the industry and the laboratories that are working on the same type of problems. That allows us to get the experience of the world outside of our academies.

## Recruitment Status - Vacancies

At the moment 8 Early Stage Researchers (ESR's) are employed in the network. On the 1<sup>st</sup> of May the first experienced researcher started in the project at ALTAIR Development France. His name is Milan Toma and he will work within work package 1 on ensuring the Transfer of Knowledge within WP1 related to Finite Element modelling of dummies and vehicles and extend this knowledge to other WP's where FE models are needed. We welcome Milan to the project and wish him a fruitful and interesting time within the MYMOSA project.

We currently have the following vacancies:

1. TNO: Early Stage Researcher advanced numerical methods to improve motorbike helmets (ESR6). The ESR will work on new modelling techniques in order to reduce the injury risk of PTW riders, including Finite Element (FE) methods as well as modelling of the human head and neck complex in FE for the purpose of injury prediction (ESR6). Contact: [lex.vanrooij@tno.nl](mailto:lex.vanrooij@tno.nl).

2. UNIFI: PhD position in Motorbike Safety (ESR1). PhD student to work on the development of a controller for Powered Two-Wheeler (PTW) models, which replicates the actions of a rider while driving a PTW (ESR1). Contact [marco.pierini@unifi.it](mailto:marco.pierini@unifi.it)

3. LMS: Experienced Research position in Motorbike Safety (ER1). This researcher will work on multi-body dynamics model of a motorcycle with driver and simulate accident dynamics with the integrated motorcycle-driver model on the road. The candidate should have a degree in engineering (preferably mechanical or electronics) and an adequate mathematical background Contact: [jian.kang@lms.be](mailto:jian.kang@lms.be).

4. LMS/ICL: Experienced Research position in Motorbike Safety (ER5). This researcher will work on technology investigation and training on virtual accident dynamics. He/she will work on the most common motorbike accident dynamics, definition of the forces applied to the helmet, their direction, magnitude, etc. The candidate should have a degree in engineering (preferably mechanical or material science) and an adequate mathematical background. Contact: [jian.kang@lms.be](mailto:jian.kang@lms.be).

## PMC Meeting Hamburg

On the 7<sup>th</sup> and 8<sup>th</sup> of April we had the 3<sup>rd</sup> Project Management Committee meeting. The meeting was held at the facilities of IBEO in Hamburg. All ESR's were present and most of the partners were represented. The ESR's presented the first results of their research work in the different work packages. The progress made is also reflected in the first 3 deliverables of the network, which can be found on the project partner site. (<http://mymosa.rtdproject.net>). The meeting was highly interactive with many questions being asked about research issues, but also about the rules and principles of a Marie Curie Network. It was nice to see that the network is becoming a reality: the teams are working more and more together and the secondments enable the young researchers to get to know each other and the other partners involved in the project.

A tour was given through the facilities and research centre of IBEO, showing the huge progress that has been made in the development of sensors during the past decade. But not only the intellectual needs were fulfilled, our hosts also took



excellent care of our more basic needs in the form of a delicious Mediterranean dinner during which there was time to get to know each other a bit more and discuss other topics than motorcycle safety. The next Project Management Committee meeting is planned for the 29<sup>th</sup> and 30<sup>th</sup> of September in Florence, Italy.

## Upcoming events

- ISMA 2008 International Conference on Noise and Vibration Engineering 15-17 September 2008, Leuven, <http://www.isma-isaac.be/conf/>
- ITS Europe Congress 2008, Geneva, June, <http://www.itsineurope.com/>

## European Marie Curie Conference 2008

On the 17<sup>th</sup> and 18<sup>th</sup> of July 2008 the European Commission is organising a conference in Barcelona for Marie Curie fellows to broaden their career perspectives and further exploit their potential. The conference is combined with the ESOF2008 conference (<http://www.esof2008.org>). The mission of ESOF (Euroscience Open Forum) is to provide both the European and the international science and business communities with an open platform for debate and communication. All participants in this satellite conference will be automatically registered to the ESOF conference. The joint participation fee covering both the Marie Curie satellite and the main ESOF event can be charged to the Marie Curie contract.

The conference will include a training session on how to access EC funding and how to write successful grant proposals. There will also be a series of workshops on how creative academics can exploit their research potential in the private sector. Opportunities in alternative careers will be discussed with specialists. In the conference participating fellows will play an active role through poster sessions searching for future collaborators. They will have the opportunity to share their good practices of dissemination and explore how to reach out and create synergies with other scientific fields or policy makers.

All MYMOSA researchers have received the invitation and can register themselves via the website mentioned in the invitation letter.

## What is MYMOSA?

The general objective of the research project is the improvement of PTW safety and riders' safety leading to a significant reduction of injuries and fatalities of motorcyclists. This objective will be reached by co-operation of researchers from top universities, research institutes and companies and the collaborative generation of multidisciplinary know-how (accidentology, accident dynamics, biomechanics), development of simulation tools, predictive models and new protective equipment concepts and a new safety vision through the implementation of integrated safety (new devices, sensors, control systems). The research project itself serves as a vehicle to train Early Stage Researchers and to create a transfer-of-knowledge on the subject of the project.

## Colophon

This newsletter is published at least twice a year. It supports the members of the MYMOSA research training network and other interested parties in the motorcycle safety community by informing them about the work progress and related activities.

Questions or suggestions?  
Please contact us!

Carolien Buter  
UNIRESEARCH  
Elektronicaweg 16-C  
2628 XG Delft  
The Netherlands  
Tel: +31 15 275 4000  
Fax: +31 15 275 4005  
C.buter@uniresearch.nl

