

## **Newsletter of the IFAC Technical Committee on Human-Machine-Systems**

**Issue 2013\_2, June 2013 (Newsletter of IFAC TC 4.5 available on: <http://tc.ifac-control.org/4/5/newsletter>)**

This year is an important year because it is our international symposium on Analysis, Design, and Evaluation of Human-Machine Systems will be held in Las Vegas, August 11-15 2013. So see you soon in Las Vegas for an important Human-Machine Systems related meeting.

This second 2013 newsletter contains:

1. The announcement of the GDR E HAMASYT / PUF international summer school on "Risk Management in Life Critical Systems" in Valenciennes, July 1-5, 2013
2. The remind of our 12<sup>th</sup> IFAC/IFIP/IFORS/IEA Symposium on Analysis, Design, and Evaluation of Human-Machine Systems, August 11-15, Las Vegas, USA
3. The announcement of the call for papers and sessions for the IFAC World Congress 2014
4. A list of future events related to Human-Machine Systems

*(To publish your TC4.5 related information to the next newsletter, send your proposal by email to Frédéric Vanderhaegen: [frederic.vanderhaegen@univ-valenciennes.fr](mailto:frederic.vanderhaegen@univ-valenciennes.fr)).*

### **1. The GDR E HAMASYT / PUF international summer school on "Risk Management in Life Critical Systems" in Valenciennes, July 1-5, 2013**

The International Summer School on Risk Management in Life Critical Systems will be held in Valenciennes, July 1-5 2013.

It is co-organized by the Joint French-American research lab between LAMIH-TEMPO/UVHC- Valenciennes (F) and HCDi/FIT-Melbourne (FL-USA) and the European Research Group GDR HAMASYT (Human-Machine Systems in Transportation and Industry). The organizers are Patrick Millot, Guy A. Boy, Frederic Vanderhaegen. For more details, please contact the secretary, Philippe Polet ([philippe.polet@univ-valenciennes.fr](mailto:philippe.polet@univ-valenciennes.fr)).

This summer school is dedicated to colleagues from industries, researchers, professors, assistant professors, PhD students and Master students.

Credits can be allocated to PhD and Master students (more details on <http://www.univ-valenciennes.fr/evenement/ssrmlcs2013/registration>).

The list of the lecturers is (see the abstract of the lectures on: <http://www.univ-valenciennes.fr/evenement/ssrmlcs2013/lecturers-and-abstracts>):

- René Amalberti, Prof. Medicine (Physiopathology) Haute Autorité de Santé and MACSF group, FR: "Navigating safety: Necessary compromises and trade-offs - theory and practice"

- Serge Boverie, R&D Innovation Manager Principal Expert, Continental Engineering Service France, FR: "The deployment of Advanced Driver Assistance Systems, how to design reliable driver's diagnostic processes"
- Guy A. Boy, Prof. Human Centered Design Institute, Florida Institute of Technology, Melbourne, USA: "Dealing with the Unexpected in our Complex Socio-Technical World"
- Pietro Carlo Cacciabue, Prof. Politecnico of Milan, ITA: "Designing advanced driver assistance systems in a risk based perspective"
- Oliver Carsten, Prof. University of Leeds, UK: "Automation and Situation Awareness in driving"
- Marco M. Carvalho, HCDi-FIT, Melbourne, USA: "Risk Assessment and Mitigation for Unintended Information Disclosure"
- Eric Chatelet, Prof. University of Technology of Troyes, FR: "Vulnerability and resilience assessment of infrastructures and networks: concepts and methodologies"
- Franck Flemisch, Prof. RWTH Aachen University, Fraunhofer FKIE institute, Bonn, DE: "Balanced Human Systems Integration and Cooperative Guidance and Control in safety critical systems, with examples in air and ground vehicles"
- Makoto Itoh, Prof., University of Tsukuba, JPN: "Managing the risks of automobile accidents via human-machine collaboration"
- Christophe Kolski, Prof. LAMIH-University of Valenciennes, FR: "Interactive surfaces, tangible interaction: from current researches to perspectives for risk management"
- Morten Lind, Prof., TU Denmark, DK: "Towards Model Based Automation"
- Patrick Millot, Prof. LAMIH-CNRS-University of Valenciennes, FR: "Adaptive Levels of Automation through humans-machines cooperative organizations for enhancing Situation Awareness"
- Marie-Pierre Pacaux-Lemoine, Research Engineer, University of Valenciennes, FR: "Human-Machine Cooperation Principles to support Life Critical Systems management"
- Donald Platt, Research Assistant, Human-Centered Design Institute, Florida Institute of Technology, Melbourne, USA: "A cooperative exploration assistant for enhancing Situation Awareness in deep space risk mitigation"
- Stéphane F. Romej, Director for Installation, Commissioning and Customer Service at Alstom Transport, Signaling, FR: "Safety critical elements of a railway system: most advanced technologies and process to demonstrate and maintain highest levels of safety along their lifetime"
- Matthias Rötting, Prof. Dr.-Ing., Technische Universität Berlin, DE: "Risk and System Evaluation"
- Jean-René Ruault, Design authority and standardization leader, DGA Direction Générale de l'Armement Paris, FR: "The Golden hour challenge, applying systems engineering to life critical system of systems"
- Kara Schmitt, Research Assistant at Human Centered Design Institute, Florida Institute of Technology, Melbourne, USA: "An integrated model of procedure-usage and based upon multi-domain research and observations"
- Lucas Stéphane, Research Assistant at the Human Centered Design Institute, Florida Institute of Technology, Melbourne USA: "The Art of Crisis Management: perspectives on industrial accidents"
- René van Paassen, Prof., TU-DELFT, NL: "The fading line between the self and the system"
- Frédéric Vanderhaegen, Prof., LAMIH-University of Valenciennes, FR: "Dissonance engineering for risk analysis: a theoretical framework"

- Detlef Zuehlke, Prof.-Dr., Director Innovative Factory Systems IFS, German Research Center for Artificial Intelligence DFKI, Kaiserslautern, DE: "Risk prevention by HMS Design in Industrial Systems"

The objective of this international summer school is to present a state of the art on risk management in life critical systems. Risk management deals with prevention, decision-making, action taking, crisis management and recovery, taking into account consequences of unexpected events. We are interested in ecological processes, human behavior, as well as control and management of life-critical systems, potentially highly-automated.

Three main attributes define life-critical systems, i.e., safety, efficiency and comfort. They typically lead to complex and time-critical issues. They belong to domains such as transportation (trains, cars, aircraft), energy (nuclear, chemical engineering), health, telecommunications, manufacturing, and services. Topics are related to risk management principles, methods and tools, case studies and include (but not limited to):

- Situation Awareness and Impact of new technology
- Reliability assessment: human errors as well as system failures
- Emotions
- Procedures, system monitoring, control and management
- Socio-organizational issues of crisis occurrence and management
- Cooperative work including human-machine cooperation and CSCW
- Responsibility and accountability: task and function allocation, authority sharing
- Interactivity, networking and management evolution
- Lessons learned for Human-Centered Design

Location: LAMIH-CNRS, University of Valenciennes Le Mont Houy 59313 Valenciennes Cedex 9

Sponsors: PUF face, GDRE HAMASYT, IFAC TC Human-Machine Systems, GDR MACS, CNRS, Région Nord Pas de Calais, GRAISyHM, Club EEA

The final program and the details for the registration fee are available on <http://www.univ-valenciennes.fr/ssrmlcs2013>.

## **2. Symposium on Analysis, Design, and Evaluation of Human-Machine Systems**

This event is very important and your numerous contributions and participations are its success!

Over 80 papers were accepted after the reviewing process. Thanks to all of you who contributed to this evaluation.

Details on the program and the registration fee are available on:

<http://www.cs.wright.edu/events/ifac/>

Several sessions of the 31<sup>st</sup> EAM conference on Human Decision Making and Manual Control will be integrated to our symposium animation.

During this symposium, a TC 4.5 meeting will be planned.

Do not hesitate to inform your contacts and colleagues about this important event and invite them to participate.

### **3. Call for papers and sessions for the IFAC World Congress 2014**

The 19th IFAC World Congress will be held in Cape Town, South Africa, August 24-29 2014

Information about this event is available on: <http://www.ifac2014.org/>.

The deadline for full draft paper submission and invited session proposal submission is: October 30 2013.

You are invited to propose papers and invited sessions related to our Human-Machine Systems related topics.

During this event, a TC 4.5 meeting will be planned.

### **4. A list of future events related to Human-Machine Systems**

- The 12<sup>th</sup> IFAC/IFIP/IFORS/IEEE Symposium on Analysis, Design, and Evaluation of Human-Machine Systems, Las Vegas, USA, August 11-15 2013 (<http://www.cs.wright.edu/events/ifac/>).
- The International Summer School on Risk Management in Life Critical Systems, Valenciennes, France, July 1-5 2013 (<http://www.univ-valenciennes.fr/evenement/ssrmlcs2013/>)
- The 10<sup>th</sup> Human-Machine Systems workshop, Berlin, Germany, October 5-7 2013 ([http://www.tu-berlin.de/zentrum\\_mensch-maschine-systeme/menue/veranstaltungen/berliner\\_werkstaetten\\_mms/10\\_berliner\\_werkstatt\\_mms/parameter/en/](http://www.tu-berlin.de/zentrum_mensch-maschine-systeme/menue/veranstaltungen/berliner_werkstaetten_mms/10_berliner_werkstatt_mms/parameter/en/))
- The IEEE Conference on Systems, Man, and Cybernetics, Manchester, UK, October 13-16, 2013 (<http://www.smc2013.org/>).
- The 19<sup>th</sup> IFAC World Congress, Cape Town, South Africa, August 24-29 2014 (<http://www.ifac2014.org/>).