



PROGRAMME

Wednesday, 10 October 2018

> 08:30 - Registration and welcome coffee

- 10:00 Opening address: *Stéphane Pimbert, Director General, INRS*
- 10:15 Keynote speaker: *Pr. Benoit lung, University of Lorraine*
From Industrial Automated Systems to Cyber-Physical Production Systems: impacts on safety?

Session 1 – Functional safety - Information Technology

Chairpersons: HARDY Sandrine, France; IKEDA Hiroyasu, Japan

- 11:00 Foresight of new and emerging occupational safety and health risks associated with information and communications technologies
Stacey N., HSL, United Kingdom
- 11:20 How to consider security aspects during the design of machinery
Mysliwiec B., MySafeAutomation, Germany
- 11:40 Analysis of Markov Models for Safety-related Systems in Security Environments
Schiller F., Beckhoff Automation, Germany
- 12:00 An extensive method to analyze impacts of cyber-security on major hazards
Massé F., INERIS, France

> 12:20 - Lunch

Session 2-1 – Safety of Collaborative Systems

Chairpersons: FUJITA Toshihiro, Japan; CHINNIAH Yuvin, Canada

- 13:50 Human-robot coactivity: need's analysis
Tihay D., INRS, France
- 14:10 Of the necessity of a uniform measurement procedure for the determination if the threshold values listed in ISO TS 15066
Pilz T., PILZ, Germany
- 14:30 Object Recognition for Safety Applications using Ultrasonic Holography
Kirfel A., Safety and Security Research Institute (ISF), Germany
- 14:50 Reliable Planning of Human-Robot-Collaboration featuring Speed and Separation Monitoring
Petersen H., Fraunhofer IFF, Germany
- 15:10 Industrial collaborative robot application: experimental implementation of safety-rated monitored stop
Sghaïer A., INRS, France

> 15:30 - Coffee break



Session 2-2 – Safety of Collaborative Systems

Chairpersons: *MALM Timo, Finland; GIRAUD Laurent, Canada*

- 16:00 Advancing Anticipatory Behaviors in Dyadic Human-Robot Collaboration: The AnDy project
Maurice P., INRIA, France
- 16:20 COVR - Towards simplified evaluation and validation of collaborative robotics applications across a wide range of domains using robot safety skills
Saenz J., Fraunhofer IFF, Germany
- 16:40 Japan's approach for the realization of Future Safety Concept by implementing collaborative safety technologies
Mukaidono M., IGSAP, Japan
- 17:00 New collaborative safety concept in various coexistence areas for human and machinery
Shimizu T., IDEC Corporation, Japan

> 17:20 - End of the day

Thursday, 11 October 2018

08:30 Registration

Session 3 – Autonomous systems

Chairpersons: *BOEMER Thomas, Germany; GIRAUD Laurent, Canada*

- 09:00 Top-Down approach for safety engineering in autonomous and semi-autonomous machinery systems
Tiusanen R., VTT, Finland
- 09:20 Safety concepts for autonomous and semi-autonomous mobile work machines
Malm T., VTT, Finland
- 09:40 Autonomous Driving within the Plant Functional Safety between(?) Industrial Automation and Automotive Engineering
Borowski T., IFA, Germany
- 10:00 A methodological framework to support the design of safe & secure autonomous systems
Heikkilä E., VTT, Finland

> 10:20 - Coffee break



Session 4 – Protective devices and smart systems

Chairpersons: *HALL Nicholas, United Kingdom; HARDY Sandrine, France*

- 10:50 Use of tablets and smartphones for the control of machinery
Nischalke-Fehn G., IFA, Germany
- 11:10 General principles of smart personal protection systems design
Marchal P., INRS, France
- 11:30 Safety related sensors used for protection of person
Wüstefeld M., Sick, Germany
- 11:50 Future prospects of enabling device as an essential safety device for the safety of machinery and Safety2.0
Nobuhiro M., IDEC Corporation, Japan

> 12:10 - Lunch

13:30 **Poster session**

Session 5 – Safety of machinery

Chairpersons: *BLAISE Jean-Christophe, France; FUJITA Toshihiro, Japan*

- 15:20 Challenges during the risk assessment of large intelligent logistic storage system
Hongbin L., TÜV SÜD, China
- 15:40 Impact of changes in machinery during use: toward a forecast of dangerous situations?
Lamy P., INRS, France
- 16:00 A study on safety requirements for brake systems of the mechanical servo presses
Hata Y., JFMA, Japan
- 16:20 Revision of ISO 13855
Görnemann O., Sick, Germany

> 16:40 - End of the working day

> 18:45 - Evening event



Friday, 12 October 2018

08:30 Registration

Session 6 – Experiences / Practical applications

Chairpersons: IKEDA Hiroyasu, Japan; BLAISE Jean-Christophe, France

- 09:10 Serious and fatal accidents caused by mobile machinery in Quebec: More prevention is needed
Burlet-Vienney D., IRSST, Canada
- 09:30 Safety Assessor Qualification Impact and Influence in Thailand
Patiphon K., TPA, Thailand
- 09:50 Framework for Occupational Safety and Health: the eSocial
Kieckbusch R.-E., CNI, Brazil
- 10:10 Analysis of 141 serious and fatal machine accidents occurring in Quebec between 2011 and 2015
Giraud L., IRSST, Canada

> 10:30 - Coffee break

Session 7 – Experiences / Prospects

Chairpersons: CHINNIAH Yuvin, Canada; BOEMER Thomas, Germany

- 11:00 Supportive Protective System IV. Experimental procedure of behavior analysis to the Supportive Protective System (SPS) as a safety management approach. For appropriate prediction and control of human behavior
Hojo R., JNIOOSH, Japan
- 11:20 Importance of safety personnel in the era of robot revolution: Current status and future prospects of Safety Assessor and Safety Basic Assessor (SA/SBA) qualification system
Fujita T., NECA, Japan
- 11:40 Objective and Subjective Effects of Passive Exoskeleton on Overhead Work
Maurice P., INRIA, France
- 12:00 **Closing address:** *Louis Laurent, Director of Studies and Research, INRS*
- 12:30 **End of the conference**