

FP7-ICT 287513

SAPHARI

NMMI Winter School

Closing Workshop

DIAG, Sapienza Università di Roma, Italy

Aula Magna

February 25, 2015

Program

Wednesday, February 25, 2015		
14:00	Introduction and Presentation of the winning team of the SAPHARI Winter School	Alessandro De Luca, Antonio Bicchi
14:15	<p>“Robot reflexes and soft-skills for interaction”</p> <p>Since decades enabling robots for direct physical interaction and cooperation with humans and their dynamic environment is one of robotics research primary goals. In this context, equipping robots with sensory and actuation capabilities to sensitively interact with its environment is fundamental. They shall have extremely fast tactile reflexes, as well as intelligent soft-skills for interaction and manipulation. At the same time, the primary objective of a robot action around humans is to ensure that even in case of malfunction or user errors no human shall be harmed because of the robot action or inaction. For this, possibly learnt instantaneous, safe, and intelligent context-based reaction schemes, paired with according subsequent actions to unforeseen events in partially unknown environments become crucial. Among other things, I will discuss recent results on unified impedance/force control, generalized collision handling for soft-robots and flying systems, and human safety in physical Human-Robot Interaction.</p>	<p>Sami Haddadin Leibniz Univ. of Hanover, Germany</p>
15:00	“Impedance control of redundant manipulators for human-robot co-manipulation”	Luigi Villani UNINA
15:20	“On the use of an opto-electronic skin for safe pHRI”	Ciro Natale SUN
15:40	Coffee Break (30m)	
16:10	“Close and wide range monitoring for human-robot interaction”	Angelika Zube IOSB
16:30	“A bidirectional invariant representation of motion”	Dongheui Lee TUM
16:50	“Knowledge-enabled control of safe physical human-robot cooperation”	Michael Beetz UNIHB
17:10	“Constrained motion planning with application to humanoids”	Giuseppe Oriolo UNIROMA1
17:30	End of Workshop	