

## DEECPresentation – Dr Lorenzo Jamone

### **Title:**

Biological inspiration and data driven learning for a future generation of intelligent robots

### **Abstract:**

The robots of today are mainly employed in heavy manufacturing industries (e.g. automotive): these are big robotic manipulators which perform simple and repetitive tasks in very structured environments, with high speed and accuracy, in areas of the factory where humans have no access for safety reasons. The robots of the future will be different. They will perform more complex tasks in more complex unstructured environments, even in collaboration with humans. They will be more intelligent machines. How will this be achieved? Explicit insights from biology, advanced machine learning and AI techniques, well established control and engineering principles, have to be combined and properly integrated. In the talk I will report the main outcomes of the research I conducted during the past 12 years: humanoid robots that are able to learn representations of their own bodies and of the external environment through interactive exploration, and that can eventually display robust problem solving capabilities in unstructured settings.

### **Speaker:**



Lorenzo Jamone is a Lecturer in Robotics at the Queen Mary University of London (UK). He received his MS in Computer Engineering from the University of Genoa in 2006 (with honors), and his PhD in Humanoid Technologies from the University of Genoa and the Italian Institute of Technology (IIT) in 2010. He was Associate Researcher at the Takanishi Laboratory in Waseda University from 2010 to 2012, and Associate Researcher at VisLab (Instituto Superior Tecnico, Lisbon, Portugal) from 2012 to 2016. His research interests include cognitive humanoid robots, motor learning and control, force and tactile sensing.