

# Distinguished Seminar in Robotics, Systems & Control

The Institute of Robotics and Intelligent Systems presents:

## Insect-inspired technologies for civilian drones

**Date:** November 18, 2016

**Time:** 15.15

**Place:** HG G3

### **Abstract:**

We are witnessing the advent of a new era of robots — drones — that can autonomously fly in natural and man-made environments. These robots have a major impact on civilian tasks, including transportation, communication, agriculture, disaster mitigation and environment preservation. However, autonomous flight in confined spaces and near humans presents great scientific and technical challenges owing to the energetic cost of staying airborne, to the perceptual intelligence required to negotiate complex environments, and to the safety requirements. Here I will show how insect-inspired technologies can improve the autonomy, capability, and safety of drones for civilian tasks.

### **Biography:**

Prof. Dario Floreano is director of the Laboratory of Intelligent Systems at the Swiss Federal Institute of Technology Lausanne (EPFL). He is also founder and director of the Swiss National Center of Competence in Robotics. Prof. Floreano holds an M.A. in visual psychophysics, an M.S. in Neural Computation, and a PhD in Robotics. He held research positions at Sony, at Caltech/JPL, and at Harvard University. He is interested in robotics and A.I. at the convergence of biology and engineering. His research activities include aerial robotics, soft robotics, and evolutionary robotics. He published more than 350 articles, several patents, and 4 books on Artificial Neural Networks, Evolutionary Robotics, Bio-inspired Artificial Intelligence, and Bio-inspired Flying Robots with MIT Press and Springer Verlag. He is on the Advisory Board of Future and Emergent Technologies of the European Commission, has been a founding member of the World Economic Forum Council on robotics and smart devices, co-founder of the International Society of Artificial Life, Inc., and executive board member of the International Society for Neural Networks. He spun off two successful companies in drones (senseFly and Flyability) and a non-for-profit platform for public awareness of robotics and A.I. (RoboHub).

