



WorkGroup « Méthodologies for robotics »

(GT4)

N. Andreff, O. Sigaud, C. Novales

2007-2010



GT4 - 5 Topics :

- Robot Control and Modeling
- Numerical Analysis for Robotics
- Perception for Action
- Software and Hardware Architectures
- Learning and adaptation

Ambition : Transversal to other GT, Open to new Topics



Robot Control and Modeling :

Oct 2007 : Math. & software tools for Robotics

(Session at JNRR 07 – N. Andreff & C. Chevallereau)

Nov 2007 : Aerial Vehicle Control

(GT UAV – MACS, I. Fantoni) 60-70 attendees

Jan 2008 : Robot Control

(open to GDR MACS) ~20 attendees

Mar 2008 : Autonomous Aerial Vehicles

(GT UAV – MACS, I. Fantoni) 60-70 attendees

Mai 2009 : Modeling-Identification-Control of PKM

(GT6, P. Wenger) ~20 attendees

Sep 2010 : Modeling-Identification-Control of PKM

(GT6, P. Wenger, G. Abba) ~20 attendees



Numerical Analysis for Robotics :

Jan 2008 : Cancelled

Nov 2009 : Numerical Analysis

(Session at JNRR 09 – N. Andreff & D. Daney)



Perception for Action :

Jan 2007 : Perception for Action

(GdR ISIS, O. Labbani) ~20 attendees

Nov 2007 : What's up in Visual Servoing

(Session at JNRR 07 – N. Andreff & F. Chaumette)

Jan 2008 : Robotics and Vision Workshop at RFIA

(RFIA – O. Labani & C. Doignon) ~30 attendees

Mar 2010 : Perception for Action

(GdR ISIS, C. Doignon) ~20 attendees

Apr 2010 : « non-conventional » sensor based control

(GdR ISIS, O. Labbani & C. Doignon) ~10 attendees

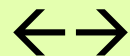


Software and Hardware Architectures :

CAR'06 Montpellier

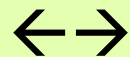
CAR'07 Paris

----- *GT4 / Arch kick-off* -----



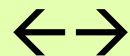
CAR'08 Bourges

Feb 2009 Ontologies and DSL



CAR'09 Toulouse

Feb 2010 : Orientation & Perspectives



CAR'10 Douai

Jul 2010 : Shared Authority (GT5)

cancelled – postponed (*24 Jan 2011 +GT2*)

CAR'11 Grenoble



Learning and Adaptation

Jul 2007 : Grenoble - AFIA 2007

~40 attendees, 13 talks

Oct 2008 : Paris

~25 attendees, 10 talks

Jun 2009 : Paris - JFPDA 2009

~40 attendees, 22 talks

Jan 2010 : Caen - RFIA 2010 (tutorials)

~50 attendees, 8 talks

Jun 2010 : Besançon - JFPDA 2010

~35 attendees, 21 talks

Nov 2009 : Sologne - Apprentissage - Session at JNRR 09

5 Topics :

- Modeling and Learning in Neurosciences (ETIS, ISIR, LORIA, LIMSI, NPA, ...)
- Reinforcement Learning (LORIA, GREYC, Supélec Metz, INRIA Lille (Sequel)...))
- Evolutionary Algorithms (ISIR, LRI, ...)
- Machine Learning for Robotics (ISIR, FEMTO-ST, ...)
- Developmental Robotics (INRIA Bordeaux, ENSTA, ETIS, ISIR, INSERM Lyon, ...)



Novel structure :

GT4

~~Robot Control and Modeling~~

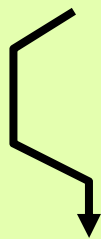
~~Numerical Analysis for Robotics~~

~~Perception for Action~~

Software and Hardware Architectures

Learning and adaptation

CAR

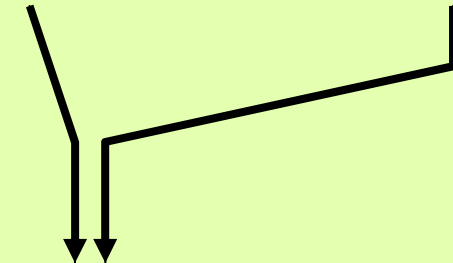


GT8 :

Robotique & Neurosciences

GT4 :

Architectures de Commande
des Robots





Invited Speaker

Herman Bruyninckx

Université de Leuven

**« Task specification, control and Estimation
with Orocos Components »**