



AUR

Automation and Robotics research group



**Dipartimento di Ing. Civile e Ing. Informatica
DICII
Università degli studi di Roma
"Tor Vergata"**

**Laurea Magistrale in Ing. Robotica e dell'Automazione
&
Laurea in Ing. Informatica, indirizzo Robotica e dell'Automazione**

<http://control.disp.uniroma2.it/ARgroup/>

Staff:

- Prof. Alessandro Astolfi
- PhD. Daniele Carnevale
- PhD. Sergio Galeani
- Prof. Osvaldo Maria Grasselli
- PhD. Francesco Martinelli
- Prof. Laura Menini
- Prof. Salvatore Nicosia
- Prof. Antonio Tornambè
- Prof. Luca Zaccarian

Know-how:*Nonlinear Control**Robotics**Estimation**Modeling and Identification**Supply chain**Vision and localization**Saturated actuators**Observers**Optimal Control**Periodic Systems**Adaptive Control**Hybrid Systems**Robust Control**Smart actuators**Network Controlled Systems**Systems with Impacts**Digital Control**UAV - UGV**Biological systems*

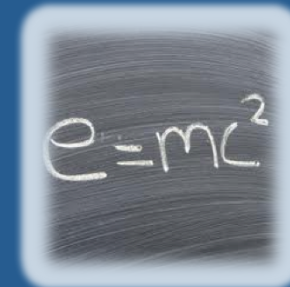
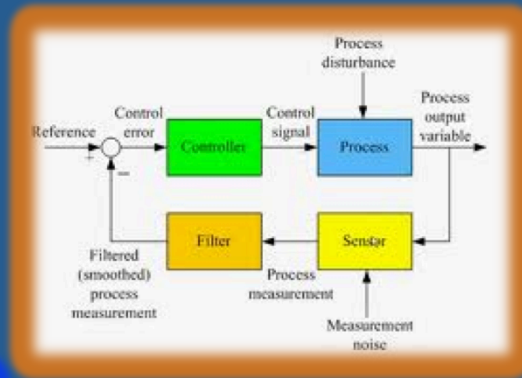
Daniele Carnevale

- Ricercatore nel settore disciplinare ING-INF04 (Automazione) in servizio da Dicembre 2008 presso la facoltà di Ingegneria di Roma Tor Vergata
- Docente del corso di Controlli Automatici e Fondamenti di Automatica
- Autore di circa 50 articoli su riviste e atti di congressi internazionali “peer-reviewed”
- Responsabile del programma di ricerca “Study and application of innovative software architectures and nonlinear control techniques for the FTU real-time control system”, ENEA-FTU di Frascati e l'associazione EURATOM/ENEA
- Collaborazioni con: University of California, Santa Barbara(UCSB), Imperial College, London (UK), University of Leicester (UK), Culham Science Centre (UK), Johannes Kepler University, Linz (Austria), LAAS-CNRS, Toulouse (France), University of Melbourne (Australia)
- Interessi di ricerca: stima, controllo nonlineare, ottimizzazione, modellazione, robotica, networked control, sistemi ibridi.

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fisica e
matematica

teoria del controllo



elettronica



informatica

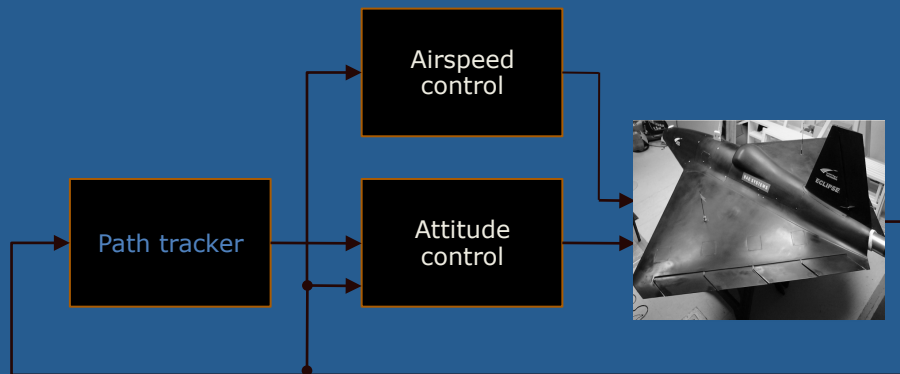


telecomunicazioni



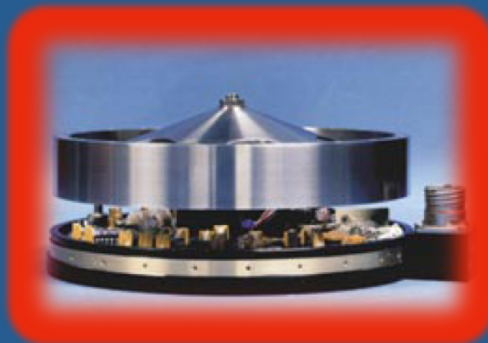
meccanica

AEROSPACE



Flight control

Cruise control and vibration analysis



Satellite stabilization (reaction wheel)

AUTOMOTIVE



Electrical and combustion engines power control

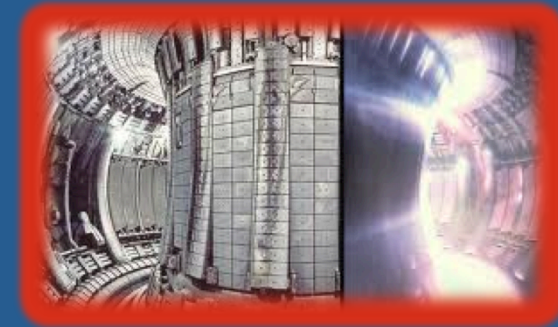
Modeling of vibration effects on human spine



Magnetorheological suspensions

Clean Energy

Nuclear Fusion: plasma confinement in Tokamaks



Extremum seeking techniques for on-line optimization of solar trackers

Distributed optimization for smart buildings



BIOLOGICAL SYSTEMS



Approximated (dynamically) optimal control for nonlinear bioreactors

Modeling and control of diabetes



Distributed sensors and data mining for crop monitoring and control of fermentation process

ROBOTICS



Rehabilitation robotics, systems for gesture recognition

Aerial autonomous vehicles (video surveillance, gaming)



Ground autonomous vehicles (cleaning, transport, harvesting)

INDUSTRY



Supply chain

Modelling and optimization (dynamic demand and supply)



Industrial robotics and vision systems