

IL DIRETTORE

VISTO lo Statuto di IMT Alti Studi Lucca, emanato con Decreto Direttoriale n. 02715(206).I.2.20.09.11, pubblicato sulla Gazzetta Ufficiale - Serie Generale- n. 233 del 6 ottobre 2011;

VISTO il "Regolamento sugli incarichi e sui rapporti di lavoro in ambito didattico e scientifico" emanato con Decreto Direttoriale n. 02179(93).I.3 del 5.08.2010 e successivamente modificato Decreto Direttoriale n. 04357(346).I.3.05.12.13;

VISTO il Decreto Legislativo 30 marzo 2001, n. 165;

VISTA la richiesta di utilizzo dei fondi del progetto "Price-based Control of Electrical Power Systems" – E-PRICE presentata dal Prof. Alberto Bemporad, che per il buon fine delle attività di ricerca avente ad oggetto "Prototyping of embedded Model Predictive Control (MPC) algorithms for aerospace applications" si necessita della collaborazione del Dott. Carlo Alberto Pascucci il cui compenso da corrispondere è un forfait equiparabile ad un rimborso spese e che ai fini della ricerca è rilevante il carattere "intuitu personae" del rapporto collaborativo con il suddetto dottore;

VISTA la circolare 2 del 2008 del Dipartimento della Funzione Pubblica che consente di affidare direttamente, senza ricorrere a procedure di valutazione comparativa, incarichi "per le prestazioni occasionali che si esauriscono in una sola azione o prestazione, caratterizzata da un rapporto "intuitu personae" che consente il raggiungimento del fine e che comportano per loro stessa natura un compenso equiparabile ad un rimborso spese";

CONSIDERATA l'approvazione della spesa da parte del Prof. Alberto Bemporad, titolare dei fondi di progetto "Price-based Control of Electrical Power Systems" – E-PRICE;

VALUTATO che l'attività avente ad oggetto "Prototyping of embedded Model Predictive Control (MPC) algorithms for aerospace applications" richiesta dal Prof. Alberto Bemporad è stata ritenuta compatibile con l'utilizzo dei fondi del medesimo progetto;

VALUTATE dal Curriculum Vitae del Dott. Carlo Alberto Pascucci la significativa esperienza professionale maturata nel campo "Model Predictive Control (MPC)", in particolare nell'ambito aerospaziale;

VISTO lo stanziamento sul capitolo CA.06.60.01.01 "Costi correnti per progetti di ricerca";

VISTO l'accertamento dei fondi del progetto "Price-based Control of Electrical Power Systems" – E-PRICE, codice progetto P0013, grant agreement n. 249096

DECRETA

- l'affidamento al Dott. Carlo Alberto Pascucci di un incarico di collaborazione occasionale, avente ad oggetto "Prototyping of embedded Model Predictive Control (MPC) algorithms for aerospace applications";
- che il compenso previsto per l'attività, per il periodo dal 1 Aprile 2014 al 31 Dicembre 2014, è di circa 5.640,43 euro lordi, corrispondente a un costo ente di circa 6.119,87 euro che graverà sui fondi del progetto "Price-based Control of Electrical Power Systems" – E-PRICE di cui è titolare il Prof. Alberto Bemporad.

(Allegato n. 1 Curriculum Vitae del Dott. Carlo Alberto Pascucci)

Lucca, 24/03/2014

Il Direttore
IMT Alti Studi Lucca
(Prof. Alberto Bemporad)



Curriculum Vitae

Personal Information

First name / Surname Carlo Alberto Pascucci

Work Experience

Occupation or position held	Dates
Main activities and responsibilities	1/12/2013 – 30/11/2014
Research Project Fellowship Holder	
Network Partnering Initiative ESA-IMT Lucca on Model Predictive Control for Adaptable Space Applications	
<ul style="list-style-type: none"> Develop model predictive control (MPC) algorithms that are suitable for space applications and tailored to embedded applications on target multiprocessor systems, using rigorous auto-coding generation procedures. The MPC controllers should perform guidance, navigation and control (GNC) tasks. Perform trade-off studies between the MPC potentials and limitations taking into account processor implementation of on-line constrained optimization problems in the view of computational requirements. Demonstrate the effectiveness of the study on a set of relevant application problems in GNC of aerospace systems and on a flight demonstration based on industrial test-benches 	
Name and address of employer	IMT – Institutions, Markets, Technologies Institute for Advanced Studies Lucca, Piazza S. Pontiano, 6, 55100
Occupation or position held	Dates
Main activities and responsibilities	1/10/2013 - 30/11/2013
Guest Scholar	
<ul style="list-style-type: none"> Research collaboration within the Dynamical Systems, Control, and Optimization research unit. 	
Name and address of employer	IMT – Institutions, Markets, Technologies Institute for Advanced Studies Lucca, Piazza S. Pontiano, 6, 55100
Occupation or position held	Dates
Main activities and responsibilities	1/10/2013 - 30/11/2013
Research Grant Winner	
Model Predictive Control for Space Applications	
<ul style="list-style-type: none"> Develop model predictive control (MPC) algorithms that are suitable for space applications and tailored to embedded applications on target multiprocessor systems, using rigorous autocoding generation procedures. 	

Curriculum Vitae of Carlo Alberto Pascucci

Name and address of employer	Department of Information Engineering And Computer Science University of Trento , Polo Scientifico e tecnologico Fabio Ferrari Via Sommarive 5, Povo, 38123, Trento
Occupation or position held	Dates
Main activities and responsibilities	17/9/2012 – 1/10/2013
Research Project Fellowship Holder	
Network Partnering Initiative ESA-IMT Lucca on Model Predictive Control for Adaptable Space Applications	
<ul style="list-style-type: none"> Develop model predictive control (MPC) algorithms that are suitable for space applications and tailored to embedded applications on target multiprocessor systems, using rigorous auto-coding generation procedures. The MPC controllers should perform guidance, navigation and control (GNC) tasks. Perform trade-off studies between the MPC potentials and limitations taking into account processor implementation of on-line constrained optimization problems in the view of computational requirements. Demonstrate the effectiveness of the study on a set of relevant application problems in GNC of aerospace systems and on a flight demonstration based on industrial test-benches 	
Name and address of employer	IMT – Institutions, Markets, Technologies Institute for Advanced Studies Lucca, Piazza S. Pontiano, 6, 55100
Occupation or position held	Dates
Main activities and responsibilities	15/4/2012 – 14/7/2012
Research Collaborator	
<ul style="list-style-type: none"> Integrated MATLAB Toolbox Management within the 7th FWP project "Highly-complex and networked control systems (HYCON2)" 	
Name and address of employer	IMT – Institutions, Markets, Technologies Institute for Advanced Studies Lucca, Piazza S. Pontiano, 6, 55100
Occupation or position held	Dates
Main activities and responsibilities	1/12/2011 – 17/09/2012
Research Project Fellowship Holder	
<ul style="list-style-type: none"> Development of hierarchical and decentralized control algorithms, and applications for the control of autonomous aerial vehicles within the 7th FWP project "Highly-complex and networked control systems (HYCON2)" Optimal multi-agent control Development Guidance and Navigation Control algorithms for Unmanned Aerial Vehicles Sensor fusion for IMU and INS in mobile robotics 	

Curriculum Vitae of Carlo Alberto Pascucci

Scientific Activities	Participation as speaker to international conferences	competences																		
	<ul style="list-style-type: none">• “Hierarchical and Hybrid Model Predictive Control of Quadcopter Air Vehicles” on 3rd IFAC Conference on Analysis and Design of Hybrid Systems (Zaragoza, Spain, 16-18 September 2009)	Driving licence	<ul style="list-style-type: none">• CACSD platforms• Use of SolidWorks as CAD/CAM software• Use of C programming language focused on embedded platforms• Use of MS Windows, Mac OSX and Linux (also with real-time kernels) operating systems• Custom electronic circuits design and prototyping																	
	Publications	Appendix List of taken relevant doctoral courses and doctoral schools	<ul style="list-style-type: none">• Prof. S. Boyd, Convex optimization.• Prof. A. Bicchi, An Introduction to Advanced Robotics.• Prof M. Diehl, Nonlinear Dynamic Optimization• Participation to the doctoral school• 5th HYCON2 PhD School on Control of Networked and Large-Scale Systems, IMT Lucca, June 2013• Participation to the doctoral school• AIROBOTS: Aerial Service Robotics, ETH, July 2012• Participation to the doctoral school• SIDRA on Stochastic identification: Flight dynamics and control, Bertinoro, July 2012• Participation to the doctoral school• 4th HYCON2 PhD School on Control of Networked and Large-Scale Systems, UniTn, June 2011																	
Autorizzo al trattamento dei dati personali contenuti nel mio curriculum vitae in base all' art. 13 del D. Lgs. 196/2003.																				
Personal skills and competences	Mother tongue	<table><tr><th colspan="2">Understanding</th><th colspan="2">Speaking</th><th colspan="2">Writing</th></tr><tr><td>Listening</td><td>Reading</td><td>Spoken interaction</td><td>Spoken production</td><td></td><td></td></tr><tr><td>B2</td><td>B2</td><td>B2</td><td>B2</td><td>B2</td><td>B2</td></tr></table>	Understanding		Speaking		Writing		Listening	Reading	Spoken interaction	Spoken production			B2	B2	B2	B2	B2	B2
	Understanding		Speaking		Writing															
Listening	Reading	Spoken interaction	Spoken production																	
B2	B2	B2	B2	B2	B2															
	Other language	English																		
(*) Common European Framework of Reference for Languages I have a great attitude to team working. I am very rational, calm and focused on my work. Enthusiasm and pragmatism in tackling research problems gather my working attitude Working both in team or independently came natural to me. I can act both as team leader or team member. <ul style="list-style-type: none">• Use of Matlab/Simulink, NI Multisim, LabView as																				
Social skills and competences																				
Organizational skills and competences																				
Technical skills and																				