

RICCARDO SCATTOLINI

Curriculum Vitae

September 2013

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EDUCATION AND ACADEMIC EXPERIENCE

Born in Milan, Italy, in 1956.

Laurea degree in Electrical Engineering from Politecnico di Milano in 1979. The thesis, on power-frequency control of large electric power systems, won the annual Quazza Award for the best thesis in Automatic Control defended at the Politecnico di Milano.

1980-1982: research assistant at the Politecnico di Milano.

1983-1986: assistant professor of Automatic Control at the Politecnico di Milano.

1986-1994: associate professor at the Politecnico di Milano and at the University of Pavia, Italy.

1994-today: Full professor in Automatic Control at the University of Pavia and Politecnico di Milano (current position).

Academic year 1984/85 (7 months): visiting researcher at the Department of Engineering Science, Oxford University.

INDUSTRIAL EXPERIENCE

1982-1983: one year working in industry on the simulation and control of petrochemical plants.

TEACHING ACTIVITIES, PLENARIES AND INVITED TALKS

Lecturer on Automatic Control (basics and advanced), Process Control, Operations Research, Safety and Fault Detection in Automation Systems.

Lectures at the "Summer school on Model Based Predictive Control", organized by Network Systeem-en Regeltheorie, Zeist (The Netherlands), and invited talks in many Universities, including the Universities of Oxford, Stuttgart, Magdeburg, and the Polytechnic of Zurich.

2000: plenary lecture: "Output feedback and tracking in nonlinear model predictive control", *Int. Conference on Methods and Models in Automation and Robotics*, Miedzydroje, Poland.

Organization and lecturer of the Italian summer school for PhD students (years 2001, 2009, 2011).

Advisor of 7 PhD Students.

AWARDS

1991: Heaviside Premium of the Institution for Electrical Engineers, United Kingdom, paper "Constrained Receding Horizon Predictive Control".

1989: national premium "Ferro Milone", by Centro per lo Studio sui Sistemi, Turin, paper "A multivariable self-tuning controller with integral action".

1996: national ANIPLA premium, paper "Regolatori PID e Metodi Classici di Taratura" (in italian).

SERVICES AND EDITORIAL ACTIVITIES

Member of the IPC of several International Conferences, including the following recent conferences: 2001 and 2005 IEEE/ASME Int. Conf. on Advanced Intelligent Mechatronics, 2005 IEEE Med. Conf, IFAC World Congress 2011 (adjoint editor), IFAC Int. Symp. ADCHEM 2012, IFAC Conference on Nonlinear Model Predictive Control (NMPC) 2012.

Associate Editor of the International Journal of Adaptive Control and Signal Processing.

Associate Editor of Automatica.

Member of the IFAC Technical Committee on Automotive Control.

Guest editor of the special issue on Hierarchical and Distributed Model Predictive Control, *Journal of Process Control*, Vol. 21, n. 6, 2011.

RESEARCH GRANTS AND INTERNATIONAL PROJECTS

1984: NATO grant for joint research, Politecnico di Milano – University of Oxford, on digital and adaptive control

2005-2006: european INTERREG project "PREDIMOT Predictive control of combustion engines", partners: Universities of Stuttgart, Heidelberg, Lintz, companies: Daimler Chrysler AG, AVL List GmbH, TCG Unitech Systemtechnik GmbH.

2008-2011: European STREP project "Hierarchical and Distributed Model Predictive Control HD-MPC", partners Universities of Delft, Aachen, Leuven, Seville, Winsconsin, National de Colombia (Bogota), companies: EDF, INOCSA.

INDUSTRIAL PROJECTS

Present: Voltage control of smart grids (in cooperation with RSE), condition monitoring of hot steel rolling mills (SIEMENS).

Past: Modeling, simulation and control of a throttle body (Magneti Marelli), Modeling of gasoline and turbocharged Diesel engines (Magneti Marelli) , Idle speed control of commercial cars (Magneti Marelli), Idle speed control of a *F1* car (Toyota), Traction control of a *F1* car (Ferrari), Fault detection and System Hazard Analysis of the selespeed gearbox (Magneti Marelli), Modeling simulation and control of a common rail injection system (Magneti Marelli and FIAT), Modeling, control and optimization of thermo-power plants (ENEL – CESI), Modeling and control of combined-cycle power plants (ENEL, Electricité de France – EDF), Distributed control of a hydro power valley (EDF), Power - frequency control (ENEL), Load shedding methods (SIEMENS), Modeling and control of floating offshore wind turbines (RSE).

H – INDEX

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PUBLICATIONS

Author of more than 9 papers published in the main international journals in the field of Control, of 17 contributions to international books, of more than 130 papers presented in international conferences, two textbooks in Italian (one translated in Spanish), and of more than 20 papers published in national scientific publications.

LIST OF RECENT PUBLICATIONS 2008-2013

2013

B. Picasso, C. Romani, R. Scattolini: "Tracking control of Wiener models with hierarchical and switching MPC", *Optimal Control, Applications and Methods*, Vol. 34, n.1, pp. 1-16, 2013.

Christofides P., R. Scattolini, D. Munoz de la Pena, J. Liu: "Distributed model predictive control: a tutorial review and future research directions", *Computers and Chemical Engineering*, Vol. 51, pp. 21-41, 2013.

G. Betti, M. Farina, A. Guagliardi, A. Marzorati, R. Scattolini: "Development of a Control-Oriented Model of Floating Wind Turbines", *IEEE Trans. on Control Systems Technology*, to appear.

L. Galbusera, G. Ferrari Trecate, R. Scattolini: "A hybrid model predictive control scheme for containment and distributed sensing in multi-agent systems", *Systems & Control Letters*, Volume: 62, n. 5, pp. 413-419, 2013.

G. Betti, M. Farina, R. Scattolini: "A robust MPC algorithm for offset-free tracking of constant reference signals", *IEEE Trans. on Automatic Control*, to appear.

S. Aghaei, F. Sheikholeslam, M. Farina, R. Scattolini: "An MPC-based reference governor approach for offset-free control of constrained linear systems", *International Journal of Control*, Volume: 86, n. 9, pp. 1534-1539, 2013.

M. Farina, P. Colaneri, R. Scattolini: "Block-wise discretization accounting for structural constraints", *Automatica*, to appear.

P. Colaneri, M. Farina, S. Kirkland, R. Scattolini, R. Shorten: "Positive systems: discretization with positivity and constraints", in *Hybrid Systems with Constraints*, S. Tarbouroech and M. Sigalotto Eds. , ISTE Wiley, pp. 1-20, 2013.

M. Farina, R. Scattolini, G. Betti, "A solution to the tracking problem using distributed predictive control", *European Control Conference*, 2013.

G. Betti, M. Farina, R. Scattolini: "Decentralized predictive control for tracking constant references ", *IEEE Conference on Decision and Control*, Firenze, 2013.

S. Rivero, M. Farina, R. Scattolini, G. Ferrari-Trecate: "Plug-and-play distributed state estimation for linear systems ", *IEEE Conference on Decision and Control*, Firenze, 2013.

M. Farina, L. Giulioni, L. Magni, R. Scattolini: "A Probabilistic Approach to Model Predictive Control ", *IEEE Conference on Decision and Control*, Firenze, 2013.

2012

B. Picasso, D. Desiderio, R. Scattolini: "Robust stability analysis of nonlinear discrete-time systems with application to MPC", *IEEE Transactions on Automatic Control*, Vol. 57, n. 1, pp. 185-191, 2012.

M. Giroletti, M. Farina, R. Scattolini: "A hybrid frequency/power based method for industrial load shedding", *Int. Journal of Electrical Power and Energy Systems*, Vol. 35, n. 1, pp 194-200, 2012..

M. Farina, R. Scattolini: "Distributed predictive control: a non-cooperative algorithm with neighbor-to-neighbor communication for linear systems", *Automatica*, (regular paper), Vol. 48, n. 6, pp. 1088-1096, 2012.

P. Christofides, R. Scattolini, D. Munoz de la Pena, J. Liu: "Distributed model predictive control: a tutorial review", *Chemical Process Control*, CPC VIII, Savannah, Georgia, U.S.A., 11-13 January, 2012.

M. Farina, R. Scattolini: "Tube-based robust sampled data MPC for linear continuous-time systems", *Automatica* Vol. 48, n. 7, pp. 1473-1476, 2012..

Christofides P., R. Scattolini, D. Munoz de la Pena, J. Liu: "Distributed model predictive control: a tutorial review", *Chemical Process Control*, CPC VIII, Savannah, Georgia, U.S.A., 11-13 January, 2012.

Betti G., M. Farina, R. Scattolini: "Distributed predictive control for tracking constant references", *IEEE American Control Conference*, Montreal, pp. 6364-6369, 2012.

Petrone F., M. Farina, G. Guagliardi, C. Sandroni, R. Scattolini, A. Veneroni: "Object-oriented modeling of a power network for model-based voltage control", *CIGRE*, paper n. 258, Lisbona, 2012.

P. Colaneri, M. Farina, R. Scattolini, R. Shorten, "A note on discretization of sparse linear systems", *IFAC Symp. ROCOND'12*, Aalborg, June 20-22, 2012.

G. Betti, M. Farina, A. Marzorati, R. Scattolini, A. Guagliardi: "Modeling and control of a floating wind turbine with spar buoy platform", 2nd IEEE ENERGYCON Conference & Exhibition, Florence, pp. 227-232, 2012.

Carinci P. S., M. Farina, F. Manenti, R. Scattolini: "Application of advanced estimation techniques to a chemical plant model", *PRES Conference*, book series *Chemical Engineering Transactions*, to appear, 2012.

Betti G., M. Farina, R. Scattolini: "Distributed predictive control for tracking constant references", *IEEE Conf. on Decision and Control*, Hawaii, USA, 2012.

2011

M. Farina, G. Ferrari-Trecate, C. Romani, R. Scattolini "Moving horizon

estimation for distributed nonlinear systems with application to cascade river reaches", *Journal of Process Control*, Vol. 21, n. 6, pp. 767-774, 2011.

B. De Schutter, R. Scattolini: "Editorial - Introduction to the special issue on hierarchical and distributed model predictive control", *Journal of Process Control*, Vol. 21, n. 6, pp. 683-684, 2011.

F. Casella, M. Farina, F. Righetti, R. Scattolini, D. Faille, F. Davelaar, A. Tica, H. Gueguen, D. Dumur: "An optimization procedure of the start-up of Combined Cycle Power Plants", *18th IFAC World Congress*, Milan, 2011.

B. Picasso, D. Desiderio, R. Scattolini: "Inherent robustness of nonlinear discrete-time systems", *18th IFAC World Congress*, Milan, 2011.

M. Farina, R. Scattolini: "Distributed non-cooperative MPC with neighbor-to-neighbor communication", *18th IFAC World Congress*, Milan, 2011.

M. Farina, R. Scattolini: "An output feedback distributed predictive control algorithm", *IEEE Conference on Decision and Control*, Orlando, 2011.

2010

M. Farina, G. Ferrari-Trecate, R. Scattolini: "Moving horizon state estimation of large-scale constrained partitioned systems", *Automatica*, Vol. 46, n. 5, pp. 910-918, 2010.

B. Picasso, D. De Vito, R. Scattolini, P. Colaneri: "An MPC approach to the design of two-layer hierarchical control systems", *Automatica (regular paper)*, Vol. 46, n. 5, pp. 823-831, 2010.

M. Farina, G. Ferrari-Trecate, R. Scattolini: "Distributed Moving Horizon Estimation for Linear Constrained Systems", *IEEE Transactions on Automatic Control (regular paper)*, Vol. 55, n.11, pp. 2462-2475, 2010.

M. Farina, G. Ferrari-Trecate, R. Scattolini: "State estimation for large-scale partitioned systems: a moving horizon approach", *IEEE American Control Conference*, Baltimore, pp. 7040-7045, 2010.

D. De Vito, B. Picasso, R. Scattolini: "On the design of reconfigurable two-layer hierarchical control systems with MPC", *IEEE American Control Conference*, Baltimore, pp. 4707-4712, 2010.

M. Farina, G. Ferrari-Trecate, R. Scattolini: "Distributed moving horizon estimation for nonlinear constrained systems", *8th IFAC Symposium on Nonlinear Control Systems*, pp. 909-914, Bologna, 2010.

B. Picasso, D. Desiderio, Riccardo Scattolini: "Robustness analysis of nominal Model Predictive Control for nonlinear discrete-time systems", *8th IFAC Symposium on Nonlinear Control Systems*, pp. 214-219, Bologna, 2010.

L. Magni, R. Scattolini: "An overview of nonlinear Model Predictive Control", in *Automotive Model Predictive Control: Models, Methods and Applications*, L. Del Re, F. Allgower, L. Glielmo, C. Guardiona, I. Kolmanvski

eds., Lecture Notes in Control and Information Science, Vol. 402, pp. 107-117, Springer, 2010.

2009

G. Ferrari-Trecate, L. Galbusera, M. Marciandi, R. Scattolini: "Model Predictive Control Schemes for Consensus in Multi-Agent Systems with Single- and Double-Integrator Dynamics", *IEEE Transactions on Automatic Control* (regular paper), Vol. 54, n.11, 2560-2572, 2009.

R. Scattolini: "Architectures for distributed and hierarchical model predictive control – a review", *Journal of Process Control*, Vol. 19, pp. 723-731, 2009. doi:10.1016/j.jprocont.2009.02.003.

M. Corno, S. Savaresi, R. Scattolini, E. Comignaghi, M. Sofia, A. Palma, E. Sepe: "Rapid virtual prototyping and dynamics analysis of a common rail injection system for gasoline engines", *International Journal of Vehicle Systems Modelling and Testing*, Vol. 4, ns. 1-2, pp. 17-42, 2009.

G. Lorini, A. Miotti, and R. Scattolini, "Modeling, simulation and predictive control of a gasoline engine", in *Modeling, Control, Simulation and Diagnosis of Complex Industrial and Energy Systems*, L. Ferrarini, C. Veber, Eds, ISA Publ., pp. 53-74, 2009.

B. Picasso, C. Romani, R. Scattolini: "Hierarchical model predictive control of Wiener Models", in *Nonlinear Model Predictive Control*, L. Magni, D. Raimondo, F. Allgöwer eds., Lecture Notes in Control and Information Science, Vol. 384, pp. 139-152, Springer, 2009.

B. Picasso, C. Romani, R. Scattolini: "On the design of hierarchical control systems with MPC", *European Control Conference*, pp. 731-736, Budapest, 2009.

L. Magni, D. Pala, R. Scattolini: "Stochastic model predictive control of constrained linear systems with additive uncertainty", *European Control Conference*, pp. 2235-2240, Budapest, 2009.

M. Farina, G. Ferrari Trecate, R. Scattolini: "Distributed moving horizon estimation for sensor Networks", *IFAC Workshop on Estimation and Control of Networked Systems*, pp. 126-131, Venice, 2009.

M. Farina, G. Ferrari Trecate, R. Scattolini: "A moving horizon scheme for distributed state estimation", *IEEE Conference on Decision and Control*, pp. 1818-1823, Shanghai, 2009.

L. Galbusera, G. Ferrari Trecate, R. Scattolini: "A hybrid model predictive control scheme for multi-agent containment and distributed sensing", *IEEE Conference on Decision and Control*, pp. 7006-7011, Shanghai, 2009.

2008

A. Ferrara, R. Scattolini: "Gain Reduction in Switched Sliding Mode Control",

IMA Journal of Mathematical Control and Information, Vol. 5, n. 1, 23-36, 2008.

G. Lorini, A. Miotti, R. Scattolini: "Modeling, simulation and predictive control of a spark ignition engine", Special Issue Advanced Control Systems in Automotive Applications, *International Journal of Modelling, Identification and Control*, Vol. 3 n. 3, 2008.

L. Magni, R. Scattolini, M. Tanelli: "Switched Model Predictive Control for Performance Enhancement", *International Journal of Control*, Vol.81, n. 12, 1859-1869, 2008.

D. De Vito, R. Scattolini: "On the solution of the constrained multiobjective control problem with the receding horizon approach", *Kybernetika*, Vol. 44, n. 5, 649-663, 2008.

P. Bolzern, R. Scattolini, N. Schiavoni: *Fondamenti di Controlli Automatici*, McGraw-Hill in Italian, third edition 2008.

R. Scattolini, P. Colaneri, D. De Vito: "A switched MPC approach to hierarchical control", *17th IFAC World Congress*, pp. 7790-7795, Seoul, 2008.

M. Corno, S. Savaresi, R. Scattolini, E. Comignaghi, M. Sofia, A. Palma, E. Sepe: "Modelling, Parameter Identification and Dynamics Analysis of a Common Rail Injection System for Gasoline Engines", *17th IFAC World Congress*, pp. 8481-8486, Seoul, 2008.

L. Galbusera, M. Marciandi, G. Ferrari-Trecate, R. Scattolini: "Contractive distributed MPC for consensus in networks of single- and double-integrators", *17th IFAC World Congress*, pp. 9033-9038, Seoul, 2008.

L. Bologna, I. Guerini, S. Onori, G. Rizzoni, R. Scattolini: "Hierarchical diagnosis strategy for an automotive electrical power generation system", *Proc. ASME 2008 Dynamic Systems and Control Conference*, Ann Arbor, USA, 2008.

M. Corno, F. Casella, S. Savaresi, R. Scattolini: "Object oriented modeling of a gasoline direct injection system", *6th International Modelica Conference*, pp. 83-91, Bielefeld, Germany, 2008.

B. Picasso, C. Romani, R. Scattolini: "Hierarchical model predictive control of Wiener Models", *Int. Workshop on Assessment and Future Directions of Nonlinear Model Predictive Control*, Pavia, pp. 1-12, September 2008. (also to appear in *Lecture Notes in Control and Information Sciences*, Springer).

COMPLETE LIST OF PUBLICATIONS

International Journals

1. G.Guardabassi, F.Romeo, R.Scattolini: "Sensitivity and Parameter Identifiability in Linear Systems", *Journal of the Franklin Institute*, n. 312, 167-177, 1981.
2. A.Locatelli, F.Romeo, R.Scattolini: "On the Design of Optimal Decentralized Controllers under Control Path Constraints", *Large Scale Systems*, Vol. 5, n. 3, 221-231, 1983.
3. G.Guardabassi, R.Scattolini: "The Asymptotic p-Test for Singular Periodic Control Problems with an Application to the Management of a Class of Ecosystems", *Optimal Control Applications and Methods*, Vol. 4, 393-403, 1983.
4. S.Bittanti, F.Romeo, R.Scattolini: "Stochastic Identification and Digital Control of a Heat-Exchanger: a Simulation test case", *Journal of the Franklin Institute*, n. 318, 29-57, 1984.
5. R.Scattolini, N.Schiavoni: "A Parameter Optimization Approach to the Design of Structurally Constrained Regulators for Discrete Time Systems", *International Journal of Control*, Vol. 42, n. 1, 177-192, 1985. Una versione preliminare del lavoro e' stata presentata in Proc.9th IFAC World Congress, X, 202-207, Budapest, 1984.
6. S.Bittanti, R.Scattolini: "Multivariable Self-Tuning Control: a Model-Following Approach", *International Journal of Control*, Vol. 42, n. 5, 1035-1047, 1985.
7. R.Scattolini, D.W.Clarke: "Multivariable Model-Following Self-Tuning Control with Offset Rejection", *International Journal of Control*, Vol. 42, n. 6, 1309-1322, 1985.
8. A.Locatelli, R.Scattolini, N.Schiavoni: "On the Design of Reliable Robust Decentralized Regulators for Linear Systems", *Large Scale Systems*, Vol. 5, 95-113, 1986.
9. R.Scattolini: "A Multivariable Self-Tuning Controller with Integral Action", *Automatica* (regular paper), Vol. 22, n. 6, 619-627, 1986.
10. P.Bolzern, P.Colaneri, R.Scattolini: "Zeros of Discrete-Time Linear Periodic Systems", *IEEE Trans. on Automatic Control*, Vol. AC-31, n. 11, 1057-1058, 1986.
11. R.Scattolini, N.Schiavoni: "Generalized Minimum Variance Control of MIMO Systems-A Stability Result", *Automatica*, Vol. 23, n. 6, 797-799, 1987.
12. R.Scattolini: "Convergence of a Multivariable Self-Tuning Controller with Integral Action", *Systems and Control Letters*, Vol. 10, 51-57, 1988.
13. R.Scattolini: "Self-Tuning Control of Systems with Infrequent and Delayed Output Sampling", *Proc. IEE, Part D*, Vol. 135, 213-221, 1988.
14. P.Carini, R.Micheli, R.Scattolini: "Multirate Self-Tuning Predictive Control

- with Application to a Binary Distillation Column", *International Journal of Systems Science*, Vol. 21, 51-64, 1990.
15. P.Colaneri, R.Scattolini, N.Schiavoni: "Stabilization of Multirate Sampled-Data Linear Systems", *Automatica*, Vol. 26, 377-380, 1990.
 16. R.Scattolini, S.Bittanti: "On the Choice of the Horizon in Long-Range Predictive Control-Some Simple Criteria", *Automatica*, Vol. 26, 915-917, 1990.
 17. P.Cofrancesco, A.Cristoforetti, M.Villa, R.Scattolini, D.W.Clarke: "A Workbench for Digital Control Systems", *IEEE Control Magazine*, Vol. 11, n.1, 102-106, 1991.
 18. G.Ferretti, C.Maffezzoni, R.Scattolini: "Recursive Estimation of Time Delay for Sampled Systems", *Automatica*, Vol. 27, n.4, 653-661, 1991.
 19. P.Colaneri, R.Scattolini, N.Schiavoni: "LQG Optimal Control of Multirate Sampled-Data Systems", *IEEE Trans. on Automatic Control*, Vol.AC-37, n.5, 675-682, 1992.
 20. D.W.Clarke, R.Scattolini: "Constrained Receding-Horizon Predictive Control", *Proc. IEE Part D*, Vol.138, n.4, 347-354, 1991.
 21. P.Cofrancesco, P.Grossi, U.Ruffina, R.Scattolini, M.Villa: "A Digital Temperature Control System", *Review of Scientific Instruments*, Vol.62, n.5, 1311-1316, 1991.
 22. P.Cofrancesco, A.Cristoforetti, R.Scattolini: "Petri Nets Based Approach to Software Development for Real-Time Control", *Proc. IEE Part D*, Vol.138, n.5, 474-478, 1991
 23. P.Colaneri, R.Scattolini, N.Schiavoni: "Regulation of Multirate Sampled-Data Systems", *Control Theory and Advanced Technology*, Vol.7, n.3, 429-441, 1991.
 24. P.Grossi, R.Scattolini: "PID, Predictive and Fuzzy Temperature Control for Nuclear Magnetic Resonance Spectroscopy Experiments", *Adaptive Control and Signal Processing*, Vol.5, n.6, 375-394, 1991.
 25. R.Scattolini, N.Schiavoni: "A Note on Multivariable Generalized Predictive Control", *International Journal of Control*, Vol.56, n.1, 253-257, 1992.
 26. E.Bassi, F.Benzi, R.Scattolini: "Design of a Digital Adaptive Controller for Electrical Drives in Industrial Applications", *IEEE Trans. on Industrial Electronics*, Vol.IE-39, n.2, 120-127, 1992.
 27. R.Scattolini: "A Multirate Self-Tuning Predictive Controller for Multivariable Systems", *International Journal of Systems Science*, Vol.23, n.8, 1347-1359, 1992.
 28. R.Scattolini, N.Schiavoni: "On the Output Control of Multirate Systems Subject to Arbitrary Exogenous Signals", *IEEE Trans. on Automatic Control*, Vol.AC-38, n.4, 643-646, 1993.
 29. C.Santacesaria, R.Scattolini: "Easy Tuning of Smith Predictor in Presence of Delay Uncertainty", *Automatica*, Vol.29, n.6, 1595-1597, 1993.
 30. D.W.Clarke, E.Mosca, R.Scattolini: "Robustness of an Adaptive Predictive Controller", *IEEE Trans. on Automatic Control*, Vol.39, n.5, 1052-1056, 1994.

31. A. Leva, C. Maffezzoni, R. Scattolini: "Self-Tuning PI-PID Regulators for Stable Systems with Varying Delay", *Automatica* (regular paper), Vol.30, n.7, pp.1171-1183, 1994.
32. R. Scattolini, N. Schiavoni: "A Multirate Model Based Predictive Controller", *IEEE Trans. on Automatic Control*, Vol.40, n.6, pp.1093-1097, 1995
33. G. De Nicolao, L. Magni, R. Scattolini: "On the Robustness of Receding-Horizon Control with Terminal Constraints", *IEEE Trans. on Automatic Control*, Vol.41, n.3, 451-453, 1996.
34. G. Ferretti, C. Maffezzoni, R. Scattolini: "On the Identifiability of Time Delay with Least Squares Methods", *Automatica*, Vol.32, n.3, pp.449-453, 1996.
35. G. De Nicolao, R. Scattolini, G. Sala: "An Adaptive Predictive Regulator with Input Saturations", *Automatica*, Vol.32, n.4, pp.597-601, 1996.
36. R. Scattolini, N. Schiavoni: "Decentralized Control of Multirate Systems Subject to Arbitrary Exogenous Signals", *IEEE Trans. on Automatic Control*, Vol. 41, n.10, pp.1540-1544, 1996
37. G. De Nicolao, L. Magni, R. Scattolini: "Robust Predictive Control of Systems with Uncertain Impulse Response", *Automatica*, Vol.32, n.10, pp.1475-1479, 1996.
38. G. De Nicolao, R. Scattolini, C. Siviero: "Modelling the Volumetric Efficiency of IC Engines: Parametric, Non-Parametric and Neural Techniques", *Control Engineering Practice*, Vol.4, n.10, pp.1405-1415, 1996.
39. G. De Nicolao, L. Magni, R. Scattolini: "Stabilizing Predictive Control of Nonlinear ARX Models", *Automatica*, Vol. 33, n.9, pp-1691-1697, 1997.
40. R. Scattolini, C. Siviero, M. Mazzucco, S. Ricci, L. Poggio, C. Rossi: "Modeling and Identification of an Electromechanical Internal Combustion Engine Throttle Body", *Control Engineering Practice*, Vol.5, n.9, pp. 1253-1259, 1997.
41. G. De Nicolao, L. Magni, R. Scattolini: "Stabilizing Receding-Horizon Control of Nonlinear Time-Varying Systems", *IEEE Trans. on Automatic Control*, AC-43, 1030-1036, 1998.
42. L. Magni, G. De Nicolao, R. Scattolini: "Some issues in the design of predictive controllers", *Journal of Applied Mathematics and Computer Science*, Vol.9, n.1, pp. 9-24, 1999.
43. L. Cavagnari, L. Magni, R. Scattolini : "Neural network implementation of nonlinear receding-horizon control", *Neural Computing and Applications*, Vol., 8, pp. 86-92, 1999.
44. R. Scattolini : "Fault identification: an approach based on propagation digraphs", *International Journal of Systems Science*, Vol. 31, n. 11, pp. 1489-1496, 2000.
45. G. De Nicolao, C. Rossi, R. Scattolini, M. Suffritti: "Identification and Idle Speed Control of Internal Combustion Engines", *Control Engineering Practice*, Vol. 7, pp. 1061-1069, 1999.
46. R. Scattolini, N. Cattane: "Detection of Sensor Faults in a Large Flexible Structure", *IEE Proceedings, Control Theory and Applications*, Vol. 146,

- n. 5, pp. 383-388, 1999.
47. M. Allen, R. Scattolini, F. Bernelli-Zazzera: "Sliding Mode Control of a Large Flexible Space Structure", *Control Engineering Practice*, Vol. 8, pp. 861-871, 2000.
 48. L. Magni, R. Scattolini, C. Rossi: "A Fault Detection and Isolation Method for Complex Industrial Systems", *IEEE Trans. on System, Man and Cybernetics*, part A Vol. 30, pp. 860-865, 2000.
 49. L. Magni, G. De Nicolao, R. Scattolini: "Output Feedback and Tracking of Nonlinear Systems with Model Predictive Control", *Automatica*, Vol. 37, pp. 1601-1607, 2001.
 50. Magni L., G. De Nicolao, L. Magnani, and R. Scattolini : "A Stabilizing Model-Based Predictive Controller for Nonlinear Systems", *Automatica* (regular paper), Vol. 37, pp. 11351-1362, 2001.
 51. Ferrara A., L. Magnani, R. Scattolini: "A Switching Scheme for Mixed PZT-Based/Jet Thrusters Control of a Large Flexible Structure", *Trans. of the ASME, Journal of Dynamic Systems, Measurement and Control*, Vol. 123, p. 722-727, 2001.
 52. Ferrara A., L. Magnani, R. Scattolini: "A Globally Stabilizing Hybrid Variable Structure Control Strategy", *IEEE Trans. on Automatic Control*, Vol. 47, no. 8, pp. 1334-1337, 2002.
 53. Magni L., R. Scattolini and C. Rossi: "A design methodology of diagnostic strategies for industrial systems", *International Journal of Systems Science*, Vol. 33, pp.505-512, 2002
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