

ANTONIO VISIOLI
CURRICULUM VITAE

- Present position** Full professor of Control Systems
Department of Mechanical and Industrial Engineering
University of Brescia, Italy
- Permanent address** Department of Mechanical and Industrial Engineering,
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<http://antonio-visioli.unibs.it>
- Place, date of birth** Parma, Italy, August 21, 1970
- Nationality** Italian
- Languages** Italian, English
- Marital status** Married, three children
- Positions held**
- University of Brescia, full professor of Control Systems, 2016-present.
 - Head of the Control Systems Laboratory at the University of Brescia, 2005-present
 - University of Brescia, associate professor of Control Systems, 2005-2016.
 - University of Brescia, assistant professor of Control Systems, 1997-2005
- Education**
- | Degree | University | Year |
|--|-----------------|------|
| Laurea, Electronic Engineering (5 years) | Parma (Italy) | 1995 |
| PhD, Applied Mechanics (3 years) | Brescia (Italy) | 1999 |
- Teaching activity** Teaching experience: 20 years.
He currently teaches *Fundamentals of Automatic Control Systems, Control Systems Technologies*.
- Research interests** PID control, fractional control, event-based control, inversion-based control, control of biomedical systems, trajectory planning and control of industrial robot manipulators.

Supervised Ph.D. theses

- S. Piccagli, “New feedforward strategies for industrial process control”, 2010.
- M. Veronesi, “Performance assessment and retuning of industrial control systems”, 2010.
- F. Padula, “Design methodologies for fractional control systems”, 2013.
- M. Beschi, “Event-based and model-based control strategies with applications to solar energy systems”, 2014.
- D. Gorni, “Thermal comfort control strategies for buildings”. 2017.
- L. Simoni, “Modelling and control strategies for mechatronic systems”, 2018.
- M. Faroni, “A predictive approach to online trajectory planning of robot manipulators” (Ciclo XXXI).
- L. Merigo, “Automatic control strategies for optimized drug administration in anesthesia” (Ciclo XXXI).
- Other 2 Ph.D. theses are currently in progress.

Publications

Authors of 3 research monographs, 1 edited book, 1 international textbook, 2 national textbooks, 8 book chapters, 96 international journal papers, 176 papers in international conference proceedings.

Reviewer activity

Reviewer for the following international journals *IEEE Trans. on Automatic Control*, *IEEE Trans. on Systems, Man, and Cybernetics*, *IEEE Trans. on Control Systems Technology*, *Mechanism and Machine Theory*, *Journal of Process Control*, *Industrial and Engineering Chemistry Research*, *Transactions of the Institute of Measurement and Control*, *Journal of Dynamic Systems, Measurements, and Control*, *Int. Journal of Robust and Nonlinear Control*, *Chemical Engineering Communications*, *Automatica*, *Control Engineering Practice*, *Mechatronics*, *ISA Transactions*, *IEE Proceedings*, *IEE Electronics Letter* and for the following international conferences: *IEEE Int. Conf. on Decision and Control*, *IEEE Int. Conf. on Robotics and Automation*, *European Control Conference* e *American Control Conference*.

Committees

- Member of the International Program Committee of the IEEE International Conference on Emerging Technologies and Factory Automation (from 2009 to 2019), of the IFAC Conference on Advances in Control Education (2009, 2012, 2013, 2016), of the 8th European Workshop on Advanced Control and Diagnosis (2010), of the Mediterranean Conference on Control and Automation (2012, 2015, 2016, 2017, 2018, 2019).

- Chair of the International Program Committee of the International Conference on Event-Based Control, Communication and Signal Processing (2016, 2017, 2018).
- Co-Chair of the International Program Committee of the IFAC Conference on Advances in Control Education 2019.
- Chair of the International Program Committee of the IFAC Conference on Advances in PID Control (2018).
- General chair of the IFAC Conference on Advances in PID Control (2012).
- General chair of the IFAC Workshop on Internet Based Control Education (2015).

Cooperations

He cooperates with various Italian and foreign universities: University of Parma (I), University of Reno Nevada (USA), UNED Madrid (E), Universidad de Almeria (E), Universitat Autònoma de Barcelona (E), Universidad de Costa Rica (CR), Universidade Federal de Santa Catarina (BR), Universiteit Gent (B), University of Lund (S).

European Projects

- Member of the University of Brescia unit in the subproject “The European Network of Mechatronics Centres” of the Interreg project MATEO (2006-2007).
- Local coordinator of University of Brescia unit in the subproject “Mechatronics based Rehabilitation at Home” of the Interreg project INNOVATION 4 WELFARE (2010-2011).
- Coordinator of the Italian Cluster for the EU ECSEL Project “I-MECH” (2017-2020).

Memberships

- Senior member of IEEE.
- Member of IFAC.
- Member of the national board of ANIPLA (Italian National Association for the Automation).
- Vice-chair of the IFAC TC 9.4 Control Education.
- Member of the IEEE CSS TC on Control Education.
- Member of the IEEE IES TC on Factory Automation.

Patents

- Inventor (with M. Santinato, D. Colombo, D. Martinello, F. Padula) of the patent “Dryer Temperature and Air Flow Control. A method to increase the efficiency of a household tumble dryer”, owned by Whirlpool Corporation.
- Inventor (with D. Colombo, R. Molteni, L. Simoni) of the patent “Method for controlling an electric motor associated with a servo pump of an industrial machine to modify a hydraulic pressure applied by the servo-pump to a load”, owned by Gefran SpA.

Awards

- Awarded (with F. Padula, O. Arrieta, R. Vilanova e V. M. Alfaro) with the “Benchmark 2011 en Ingenieria de Control” prize given by the Comitè Espanol de Automatica (CEA).

SCIENTIFIC PUBLICATIONS

Books

- [B1] G. Finzi, A. Visioli, M. Volta, *Analisi e controllo di sistemi dinamici. Un laboratorio informatico*, McGraw-Hill Libri Italia, Milano, 1996.
- [B2] M. Veronesi, A. Visioli, *Logica Fuzzy. Teoria e Applicazioni* FrancoAngeli, Milano, 2000.
- [B3] A. Visioli, *Practical PID Control*, Springer, London (UK), 2006.
- [B4] M. S. Fadali, A. Visioli, *Digital Control Engineering – Analysis and Design*, Academic Press, Burlington (MA), 2008.
- [B5] A. Visioli, Q.-C. Zhong, *Control of Integral Processes with Dead Time*, Springer, London (UK), 2010.
- [B6] R. Vilanova, A. Visioli (eds.), *PID Control in the Third Millennium: Lessons Learned and New Approaches*, Springer, London (UK), 2012.
- [B7] M. S. Fadali, A. Visioli, *Digital Control Engineering – Analysis and Design (2nd Edition)*, Academic Press, Burlington (MA), 2012.
- [B8] F. Padula, A. Visioli, *Laboratorio di Automatica – Modellazione, Osservazione e Controllo di un Sistema Meccatronico*, Cartolibreria Snoopy, Brescia, 2014.
- [B9] F. Padula, A. Visioli, *Advances in Robust Fractional Control*, Springer, London (UK), 2014.

Book chapters

- [BC1] A. Visioli, G. Legnani, “Experimental Comparison of Neural Networks Based Controllers for Industrial Robots” in *Recent Advances in Mechatronics*, Springer-Verlag, pp. 192-204, 1999.
- [BC2] A. Piazzzi, A. Visioli, “An interval analysis based algorithm for computing the stability margin of uncertain systems” in *Numerical Methods and Applications*, Springer-Verlag, pp. 246-254, 2003.
- [BC3] A. Visioli, G. Ziliani, G. Legnani, “Friction compensation in hybrid force/velocity control for contour tracking tasks”, in *Industrial Robotics: Theory, Modelling and Control*, pro literatur Verlag, pp. 875-894, 2007.
- [BC4] J. L. Guzmán, T. Hägglund, A. Visioli, “Feedforward compensation for PID control loops”, in *PID Control in the Third Millennium: Lessons Learned and New Approaches*, Springer, London (UK), 2012.
- [BC5] J. Sánchez, A. Visioli, S. Dormido, “Event-based PID control”, in *PID Control in the Third Millennium: Lessons Learned and New Approaches*, Springer, London (UK), 2012.
- [BC6] S. Dormido, A. Visioli, “PID Control”, in *Encyclopedia of Systems and Control*, Springer, London (UK), 2015.
- [BC7] J. Chacon, J. Sanchez, A. Visioli, “Send-on-delta PI control”, in *Asynchronous Control for Networked Systems*, Springer, London (UK), 2015.

International journal papers

- [IJ1] A. Piazzzi, A. Visioli, "Global minimum-time trajectory planning of mechanical manipulators using interval analysis", *International Journal of Control*, Vol. 71, No. 4, pp. 631-652, 1998.
- [IJ2] A. Visioli, "Fuzzy logic based set-point weight tuning of PID controllers", *IEEE Transactions on Systems, Man, and Cybernetics – Part A*, Vol. 29, No. 6, pp. 587-592, 1999.
- [IJ3] A. Visioli, G. Legnani, "Experimental comparison of decentralized controllers for industrial robots", *Robotica*, Vol. 17, pp. 601-612, 1999.
- [IJ4] A. Piazzzi, A. Visioli, "Global minimum-jerk trajectory planning of robot manipulators", *IEEE Transactions on Industrial Electronics*, Vol. 47, No. 1, pp. 140-149, 2000.
- [IJ5] A. Piazzzi, A. Visioli, "Minimum-time system inversion based motion planning for residual vibration reduction", *IEEE/ASME Transactions on Mechatronics*, Vol. 5, No. 1, pp. 12-22, 2000.
- [IJ6] A. Visioli, "Trajectory planning of robot manipulators by using algebraic and trigonometric splines", *Robotica*, Vol. 18, No. 6, pp. 611-631, 2000.
- [IJ7] A. Piazzzi, A. Visioli, "Robust set-point constrained regulation via dynamic inversion", *International Journal of Robust and Nonlinear Control*, Vol. 11, pp. 1-22, 2001.
- [IJ8] A. Piazzzi, A. Visioli, "Optimal noncausal set-point regulation of scalar systems", *Automatica*, Vol. 37, No. 1, pp. 121-127, 2001.
- [IJ9] A. Visioli, "Tuning of PID controllers with fuzzy logic", *IEE Proceedings – Control Theory and Applications*, Vol. 148, No. 1, pp. 1-8, 2001.
- [IJ10] A. Visioli, "Optimal tuning of PID controllers for integral and unstable processes", *IEE Proceedings – Control Theory and Applications*, Vol. 148, No. 2, pp. 180-184, 2001.
- [IJ11] A. Piazzzi, A. Visioli, "Optimal inversion-based control fo the set-point regulation of nonminimum-phase uncertain scalar systems", *IEEE Transactions on Automatic Control*, Vol. 46, No. 10, pp. 1654-1659, 2001.
- [IJ12] A. Piazzzi, A. Visioli, "Point-to-point motion planning for servosystems with elastic transmission via optimal dynamic inversion", *ASME Journal of Dynamic Systems, Measurement, and Control*, Vol. 123, pp. 733-736, Dic. 2001.
- [IJ13] A. Visioli, G. Legnani, "On the trajectory tracking control of industrial SCARA robot manipulators", *IEEE Transactions on Industrial Electronics*, Vol. 49, No. 1, pp. 224-232, 2002.
- [IJ14] A. Piazzzi, A. Visioli, "Optimal dynamic inversion based control of an overhead crane", *IEE Proceedings – Control Theory and Applications*, Vol. 149, No. 5, pp. 405-411, 2002.
- [IJ15] A. Visioli, "Modified anti-windup scheme for PID controllers", *IEE Proceedings – Control Theory and Applications*, Vol. 150, No. 1, pp. 49-54, 2003.
- [IJ16] A. Visioli, "Time-optimal Plug&Control for integrating and FOPDT processes", *Journal of Process Control*, Vol. 13, No. 3, pp. 195-202, 2003.
- [IJ17] A. Visioli, A. Piazzzi, "Improving set-point following performance of industrial controllers with a fast dynamic inversion algorithm", *Industrial and Engineering Chemistry Research*, Vol. 42, pp. 1357-1362, 2003.

- [IJ18] E. Dyllong, A. Visioli, "Planning and real-time modifications of a trajectory using spline techniques", *Robotica*, Vol. 21, pp. 475-482, 2003.
- [IJ19] A. Visioli, "A new design for a PID plus feedforward controller", *Journal of Process Control*, Vol. 14, No. 4, pp. 455-461, 2004.
- [IJ20] A. Visioli, Book review of "From plant data to process control – ideas for process identification and PID design" by L. Wang and W. R. Cluett, *Control Engineering Practice*, Vol. 12, No. 6, pp. 793-794, 2004.
- [IJ21] E. L. Secco, A. Visioli, G. Magenes, "Mimum jerk motion planning for a prosthetic finger", *Journal of Robotic Systems*, Vol. 21, No. 7, pp. 361-368, 2004.
- [IJ22] A. Piazzzi, A. Visioli, "Using stable input-output inversion for minimum-time feedforward constrained regulation of scalar systems", *Automatica*, Vol. 41, No. 2, pp. 305-313, 2005.
- [IJ23] A. Visioli, "Design and tuning of a ratio controller", *Control Engineering Practice*, Vol. 13, No. 4, pp. 485-497, 2005.
- [IJ24] A. Visioli, "A new ratio control architecture", *Industrial and Engineering Chemistry Research*, Vol. 44, No. 13, pp. 4617-4624, 2005.
- [IJ25] F. Jatta, G. Legnani, A. Visioli, "Friction compensation in hybrid force/velocity control of industrial manipulator", *IEEE Transactions of Industrial Electronics*, Vol. 53, No. 2, pp. 604-613, 2006.
- [IJ26] F. Jatta, G. Legnani, A. Visioli, G. Ziliani, "On the use of velocity feedback in hybrid force/velocity control of industrial manipulators", *Control Engineering Practice*, Vol. 14, No. 9, pp. 1045-1055, 2006.
- [IJ27] A. Visioli, "A method for PI controllers tuning assessment", *Industrial and Engineering Chemistry Research*, Vol. 45, No. 8, pp. 2741-2747, 2006.
- [IJ28] A. Piazzzi, A. Visioli, "A noncausal approach for PID Control", *Journal of Process Control*, Vol. 16, No. 8, pp. 831-843, 2006.
- [IJ29] G. Ziliani, A. Visioli, G. Legnani, "Gain scheduling for hybrid force/velocity control in contour tracking task", *International Journal of Advanced Robotic Systems*, Vol. 3, No. 4, pp. 367-374, 2006.
- [IJ30] A. Piazzzi, A. Visioli, "Combining H-infinity control and dynamic inversion for robust constrained set-point regulation", *International Journal of Tomography & Statistics*, Vol. 6, No. S07, pp. 63-68, 2007.
- [IJ31] A. Visioli, "Experimental evaluation of a time-optimal Plug&Control strategy", *ISA Transactions*, Vol. 46, pp. 519-525, 2007.
- [IJ32] G. Ziliani, A. Visioli, G. Legnani, "A mechatronic approach for robotic deburring", *Mechatronics*, Vol. 17, pp. 431-441, 2007.
- [IJ33] A. Visioli, A. Piazzzi, "A toolbox for input-output system inversion", *International Journal of Computers, Communication and Control*, Vol. 2, No. 4, pp. 375-389, 2007.
- [IJ34] M. Veronesi, A. Visioli, "Performance assessment and retuning of PID controllers", *Industrial and Engineering Chemistry Research*, Vol. 48, No. 5, pp. 2616-2623, 2009.
- [IJ35] S. Piccagli, A. Visioli, "An optimal feedforward control design for the set-point following of MIMO processes", *Journal of Process Control*, Vol. 19, pp. 978-984, 2009.
- [IJ36] S. Piccagli, A. Visioli, "A minimum-time feedforward technique for PID control", *IET Proceedings - Control Theory and Applications*, Vol. 3, No. 10, pp. 1341-1350, 2009.

- [IJ37] M. Veronesi, A. Visioli, "An industrial application of a performance assessment and retuning technique for PI controllers", *ISA Transactions*, Vol. 49, No. 2, pp. 244-248, 2010.
- [IJ38] M. Veronesi, A. Visioli, "Performance assessment and retuning of PID controllers for integral processes", *Journal of Process Control*, Vol. 20, No. 3, pp. 261-269, 2010.
- [IJ39] O. Arrieta, A. Visioli, R. Vilanova, "PID autotuning for weighted servo/regulation control operation", *Journal of Process Control*, Vol. 20, No. 4, pp. 472-480, 2010.
- [IJ40] A. Visioli, G. Ziliani, G. Legnani, "Iterative learning hybrid force/velocity control for contour tracking", *IEEE Transactions on Robotics*, Vol. 26, No. 2, pp. 388-393, 2010.
- [IJ41] F. Padula, A. Visioli, "Tuning rules for optimal PID and fractional-order PID controllers", *Journal of Process Control*, Vol. 21, pp. 69-81, 2011.
- [IJ42] J. Sanchez, A. Visioli, S. Dormido, "A two-degree-of-freedom PI controller based on events", *Journal of Process Control*, Vol. 21, pp. 639-651, 2011.
- [IJ43] M. Veronesi, A. Visioli, "A simultaneous closed-loop automatic tuning method for cascade controllers", *IET Control Theory and Applications*, Vol. 5, No. 2, pp. 263-270, 2011.
- [IJ44] O. Arrieta, R. Vilanova, A. Visioli, "PID tuning for servo/regulation control operation for unstable and integrating processes", *Industrial and Engineering Chemistry Research*, Vol. 50, No. 6, pp. 3327-3334, 2011.
- [IJ45] V. Perdureau, G. Legnani, V. Pasqui, E. Sardini, A. Visioli, "International master program on mechatronic systems for rehabilitation", *Journal sur l'enseignement des sciences et technologies de l'information et des systems*, Vol. 10, 1006, 2011.
- [IJ46] F. Padula, A. Visioli, "On the stabilizing PID controllers for integral processes", *IEEE Transactions on Automatic Control*, Vol. 57, No. 2, pp. 494-499, 2012.
- [IJ47] M. Beschi, A. Visioli, M. Berenguel, L. Yebra, "Constrained temperature control of a solar furnace", *IEEE Transactions on Control Systems Technologies*, Vol. 20, No. 5, pp. 1263-1274, 2012.
- [IJ48] S. Dormido, E. Pisoni, A. Visioli, "Interactive tools for designing fractional-order PID controllers", *International Journal of Innovative Computing, Information, and Control*, Vol. 8, No. 7(A), pp. 4579-4590, 2012.
- [IJ49] F. Padula, A. Visioli, "Optimal tuning rules for PID and fractional-order PID controllers for integral and unstable processes", *IET Control Theory and Applications*, Vol. 6, No. 6, pp. 776-786, 2012.
- [IJ50] A. Visioli, "Research trends for PID controllers", *Acta Polytechnica*, Vol. 52, No. 5, pp. 144-150, 2012.
- [IJ51] M. Beschi, S. Dormido, J. Sanchez, A. Visioli, "Characterization of symmetric send-on-delta PI controllers", *Journal of Process Control*, Vol. 22, No. 10, pp. 1930-1945, 2012.
- [IJ52] F. Padula, A. Visioli, "Set-point weight tuning rules for fractional-order PID controllers", *Asian Journal of Control*, Vol. 15, No. 3, pp. 678-690, 2013.
- [IJ53] J. Chacon, J. Sanchez, A. Visioli, L. Yebra, S. Dormido, "Characterization of limit cycles for self-regulating and integral processes with PI control and send-on-delta sampling", *Journal of Process Control*, Vol. 23, No. 6, pp. 826-838, 2013.
- [IJ54] F. Padula, S. Alcantara, R. Vilanova, A. Visioli, "H-infinity control of fractional linear systems", *Automatica*, Vol. 49, No. 17, pp. 2276-2280, 2013.

- [IJ55] M. Beschi, M. Berenguel, A. Visioli, L. Yebra, "Constrained control strategies for disturbance rejection in a solar furnace", *Control Engineering Practice*, Vol. 21, No. 10, pp. 1410-1421, 2013.
- [IJ56] M. Beschi, M. Berenguel, A. Visioli, J. L. Guzman, L. Yebra, "Implementation of feedback linearization GPC control for a solar furnace", *Journal of Process Control*, Vol. 23, No. 10, pp. 1545-1554, 2013.
- [IJ57] J. E. Normey-Rico, R. Sartori, M. Veronesi, A. Visioli, "An automatic tuning methodology for a unified dead-time compensator", *Control Engineering Practice*, Vol. 27, pp. 11-22, 2014.
- [IJ58] M. Beschi, S. Dormido, J. Sanchez, A. Visioli, "Tuning of symmetric send-on-delta PI controllers", *IET Control Theory and Applications*, Vol. 8, No. 4, pp. 248-259, 2014.
- [IJ59] M. Veronesi, A. Visioli, "Automatic tuning of feedforward controllers for disturbance rejection", *Industrial and Engineering Chemistry Research*, Vol. 53, No. 7, pp. 2764-2770, 2014.
- [IJ60] M. Beschi, S. Dormido, J. Sanchez, A. Visioli, L. Yebra, "Event-based PI plus feedforward control strategies for a distributed solar collector field", *IEEE Transactions on Control Systems Technologies*, Vol. 22, No. 4, pp. 1615-1622, 2014.
- [IJ61] M. Beschi, S. Dormido, J. Sanchez, A. Visioli, "Two degree-of-freedom design for a send-on-delta sampling PI control strategy", *Control Engineering Practice*, Vol. 30, pp. 55-66, 2014.
- [IJ62] F. Padula, A. Visioli, "Inversion-based feedforward and reference signal design for fractional constrained control systems", *Automatica*, Vol. 50, No. 8, pp. 2169-2178, 2014.
- [IJ63] F. Padula, R. Vilanova, A. Visioli, "H-infinity optimization based fractional-order PID controllers design", *International Journal of Robust and Nonlinear Control*, Vol. 24, pp. 3009-3026, 2014.
- [IJ64] J. L. Guzman, T. Hagglund, M. Veronesi, A. Visioli, "Performance indices for feedforward control", *Journal of Process Control*, Vol. 26, pp. 26-34, 2015.
- [IJ65] M. Veronesi, A. Visioli, "Deterministic performance assessment and retuning of industrial controllers based on routine operating data: applications", *Processes*, Vol. 3, pp. 113-137, 2015.
- [IJ66] M. Beschi, D. Colombo, P. Grande, F. Padula, A. Visioli, "An Hardware-In-the-Loop tool for the design of complex mechanical systems controllers", *Applied Mechanics and Materials*, Vol. 783, pp. 43-56, 2015.
- [IJ67] J. Saenz, J. Chacón, L. de la Torre, A. Visioli, S. Dormido. "Open and Low-Cost Virtual and Remote Labs on Control Engineering", *IEEE Access*, Vol. 3, pp. 805-814, 2015.
- [IJ68] M. Beschi, S. Dormido, J. Sanchez, A. Visioli, "A closed-loop automatic tuning technique for an event-based PI controller", *Industrial and Engineering Chemistry Research*, Vol. 54, No. 24, pp. 6362-6370, 2015.
- [IJ69] F. Padula, A. Visioli, "On the fragility of fractional-order PID controllers for FOPDT processes", *ISA Transactions*, Vol. 60, pp. 228-243, 2016.
- [IJ70] M. Beschi, M. Berenguel, A. Visioli, L. J. Yebra, "On reduction of control effort in feedback linearization GPC strategy applied to a solar furnace", *Optimal Control Applications and Methods*, Vol. 37, pp. 521-536, 2016.

- [IJ71] F. Padula, C. Ionescu, N. Latronico, M. Paltenghi, A. Visioli, G. Vivacqua, “Inversion-based propofol dosing for intravenous induction of hypnosis”, *Communications in Nonlinear Science and Numerical Simulation*, Vol. 39, pp. 481-494, 2016.
- [IJ72] D. Gorni, M. Castilla, A. Visioli, “An efficient modelling for temperature control of residential buildings”, *Building and Environment*, Vol. 103, pp. 86-98, 2016.
- [IJ73] F. Padula, A. Visioli, “Robust combined feedback/feedforward control for fractional FOPDT systems”, *Optimal Control Applications and Methods*, Vol. 37, pp. 902-921, 2016.
- [IJ74] F. Padula, A. Visioli, “Set-point filter design for a two-degree-of-freedom fractional control system”, *IEEE/CAA Journal of Automatica Sinica*, Vol. 3, pp. 445-456, 2016.
- [IJ75] M. Beschi, F. Padula, A. Visioli, “Fractional robust PID control of a solar furnace”, *Control Engineering Practice*, Vol. 56, pp. 190-199, 2016.
- [IJ76] A. Pawlowski, M. Beschi, J. L. Guzmán, A. Visioli, M. Berenguel, S. Dormido, “Application of SSOD-PI and PI-SSOD event-based controllers to greenhouse climatic control”, *ISA Transactions*, Vol. 65, pp. 525-536, 2016.
- [IJ77] P. Lino, G. Maione, F. Padula, S. Stasi, A. Visioli, “Synthesis of fractional-order PI controllers and fractional-order filters for industrial electrical drives”, *IEEE/CAA Journal of Automatica Sinica*, Vol. 4, pp. 58-69, 2017.
- [IJ78] R. D. O. Pereira, M. Veronesi, A. Visioli, J. E. Normey-Rico, B. C. Torrico, “Implementation and test of a new autotuning method for PID controllers of TITO processes”, *Control Engineering Practice*, Vol. 58, pp. 171-186, 2017.
- [IJ79] A. Ruiz, M. Beschi, A. Visioli, S. Dormido, J. E. Jimenez, “A Unified Event-based Control Approach for FOPTD and IPTD Processes Based on the Filtered Smith Predictor”, *Journal of the Franklin Institute*, Vol. 354, pp. 1239-1264, 2017.
- [IJ80] H. S. Sanchez, F. Padula, A. Visioli, R. Vilanova, “Tuning rules for robust FOPID controllers based on multi-objective optimization with FOPDT models”, *ISA Transactions*, Vol. 66, pp. 344-361, 2017.
- [IJ81] F. Padula, C. Ionescu, N. Latronico, M. Paltenghi, A. Visioli, G. Vivacqua, “Optimized PID control of depth of hypnosis in anesthesia”, *Computer Methods and Programs in Biomedicine*, Vol. 144, pp. 21-35, 2017.
- [IJ82] M. Beschi, F. Padula, A. Visioli, “The generalized isodamping approach for robust fractional PID controllers design”, *International Journal of Control*, Vol. 90, pp. 1157-1164, 2017.
- [IJ83] H. S. Sanchez, A. Visioli, R. Vilanova, “Optimal Nash tuning for robust PID controllers”, *Journal of the Franklin Institute*, Vol. 354, pp. 3945-3970, 2017.
- [IJ84] L. Merigo, M. Beschi, F. Padula, N. Latronico, M. Paltenghi, A. Visioli, “Event-based control of depth of hypnosis in anesthesia”, *Computer Methods and Programs in Biomedicine*, Vol. 147, pp. 63-83, 2017.
- [IJ85] L. Merigo, M. Beschi, F. Padula, A. Visioli, “A noise-filtering event generator for PIDPlus controllers”, *Journal of the Franklin Institute*, Vol. 355, pp. 774-802, 2018.
- [IJ86] E. Villagrossi, L. Simoni, M. Beschi, N. Pedrocchi, A. Marini, L. Molinari Tosatti, A. Visioli, “A virtual force sensor for interaction tasks with conventional industrial robots”, *Mechatronics*, Vol. 50, pp. 78-86, 2018.
- [IJ87] L. Merigo, F. Padula, A. Pawlowski, S. Dormido, J. L. Guzmán, N. Latronico, M. Paltenghi, A. Visioli, “A model-based control scheme for depth of hypnosis in

- anesthesia”, *Biomedical Signal Processing and Control*, Vol. 42, pp. 216-229, 2018.
- [IJ88] J. Sanchez, M. Guinaldo, A. Visioli, S. Dormido, “Identification of process transfer function parameters in event-based PI control loops”, *ISA Transactions*, Vol. 75, pp. 157-171, 2018.
- [IJ89] J. Sanchez, M. Guinaldo, A. Visioli, S. Dormido, “Enhanced event-based identification procedure for process control”, *Industrial and Engineering Chemistry Research*, Vol. 57, pp. 7218-7231, 2018.
- [IJ90] M. Faroni, M. Beschi, N. Pedrocchi, A. Visioli, “Viability and feasibility of constrained kinematic control of manipulators”, *Robotics*, Vol. 7, 2018.
- [IJ91] M. Giacomelli, F. Padula, L. Simoni, A. Visioli, “Simplified input-output inversion control of a double pendulum overhead crane for residual oscillations reduction”, *Mechatronics*, Vol.56, pp. 37-47, 2018.
- [IJ92] D. Gorni, A. Visioli, “Genetic algorithms based reference signal determination for temperature control of residential buildings”, *Applied Sciences*, Vol. 8, 2129, 2018.
- [IJ93] L. Merigo, F. Padula, N. Latronico, M. Paltenghi, A. Visioli, “Optimized PID control of propofol and remifentanyl coadministration for general anesthesia”, *Communications in Nonlinear Science and Numerical Simulation*, Vol. 72, pp. 194-212, 2019.
- [IJ94] M. Faroni, M. Beschi, N. Pedrocchi, A. Visioli, “Predictive inverse kinematics for redundant manipulators with task scaling and kinematic constraints”, *IEEE Transactions on Robotics*, Vol. 35, pp. 278-285, 2019.
- [IJ95] L. Simoni, M. Beschi, G. Legnani, A. Visioli, “Modelling the temperature in joint friction of industrial manipulators”, *Robotica*, Vol. 37, pp. 906-927, 2019.
- [IJ96] E. Rodríguez-Miranda, M. Beschi, J. L. Guzmán, M. Berenguel, A. Visioli, “Daytime/nighttime event-based PI control for the pH of a microalgae raceway reactor”, *Processes*, Vol. 9, 247, 2019.

International conference proceedings

- [IC1] I.P.W. Sillitoe, D.J. Mulvaney, A. Visioli, “The classification of ultrasonic signals using multistage radial basis function neural networks”, *IASTED International Conference on Signal and Image Processing*, Las Vegas (USA), pp. 135-139, Nov. 1995.
- [IC2] I.P.W. Sillitoe, A. Visioli, F. Zanichelli, S. Caselli, “Experiments in the piece-wise linear approximation of ultrasonic echoes for object recognition in manipulation tasks”, *IEEE International Conference on Robotics and Automation*, Minneapolis (USA), pp. 353-359, 1996.
- [IC3] S. Caselli, I. Sillitoe, A. Visioli, F. Zanichelli, “Object classification for robot manipulation tasks based on learning of ultrasonic echoes”, *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Osaka (J), pp. 260-267, 1996.
- [IC4] A. Piazzzi, A. Visioli, “A global optimization approach to trajectory planning for industrial robots”, *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Grenoble (F), pp. 1553-1559, 1997.

- [IC5] A. Piazzzi, A. Visioli, "An interval algorithm for minimum-jerk trajectory planning of robot manipulators", *IEEE International Conference on Decision and Control*, San Diego (USA), pp. 1924-1927, 1997.
- [IC6] A. Piazzzi, A. Visioli, "A cutting-plane algorithm for minimum-time trajectory planning of industrial robots", *IEEE International Conference on Decision and Control*, San Diego (USA), pp. 1216-1218, 1997.
- [IC7] A. Piazzzi, A. Visioli, "Minimum-time open-loop smooth control for point-to-point motion in vibratory systems", *IEEE International Conference on Robotics and Automation*, Leuven (B), pp. 946-951, 1998,
- [IC8] A. Visioli, G. Finzi, "PID tuning with fuzzy set-point weighting", *IEEE International Conference on Control Applications*, Trieste (I), pp. 638-642, 1998.
- [IC9] G. Legnani, A. Visioli, "Experimental valuation of decentralized controllers for industrial robot manipulators", *IEEE International Conference on Control Applications*, Trieste (I), pp. 567-571, 1998.
- [IC10] A. Piazzzi, A. Visioli, "A system inversion approach to robust set-point regulation" *IEEE International Conference on Decision and Control*, Tampa (USA), pp. 3849-3854, 1998.
- [IC11] A. Visioli, B. Zappa, G. Legnani, "Decentralized controllers for SCARA robot trajectory tracking: an experimental comparison", *2nd International Conference on Recent Advances in Mechatronics*, Istanbul (TR), pp. 239-244, 1999.
- [IC12] A. Piazzzi, A. Visioli, "Optimal system inversion based motion planning for servosystems with elastic transmission", *2nd International Conference on Recent Advances in Mechatronics*, Istanbul (TR), pp. 28-33, 1999.
- [IC13] P. Nigrowsky, A. Visioli, P. Turner, "Practical evaluation of V.S.C. with varying bounds of robot manipulators", *2nd International Conference on Recent Advances in Mechatronics*, Istanbul (TR), pp. 62-67, 1999.
- [IC14] A. Visioli, "Comparison of fuzzy logic based tuning methods for PID controllers", *European Control Conference ECC99*, Karlsruhe (D), 1999.
- [IC15] A. Piazzzi, A. Visioli, "Worst-case optimal noncausal motion planning for residual vibration reduction", *European Control Conference ECC99*, Karlsruhe (D), 1999.
- [IC16] A. Visioli, "Adaptive tuning of fuzzy set-point weighting for PID controllers", *IFAC Workshop on Digital Control - Past, present and future of PID control*, Terrassa (S), pp. 513-518, 2000.
- [IC17] A. Visioli, "Fuzzy logic based tuning of PID controllers for plants with under-damped response", *IFAC Workshop on Digital Control - Past, present and future of PID control*, Terrassa (S), pp. 666-671, 2000.
- [IC18] G. Legnani, A. Visioli, "Simplified but accurate identification techniques for model based controllers of industrial manipulators", *31st International Symposium on Robotics*, Montreal (CAN), pp. 277-282, 2000.
- [IC19] A. Piazzzi, A. Visioli, "System inversion based control of an overhead crane", *IFAC Conference on Control System Design*, Bratislava (SK), 2000.
- [IC20] A. Piazzzi, A. Visioli, "On the set-point regulation of uncertain nonminimum-phase scalar systems", *IFAC Symposium on Robust Control Design*, Prague (CZ), 2000.
- [IC21] A. Visioli, G. Legnani, "Experiments on Model Identification and Control of an Industrial Robot Manipulator", *IFAC Symposium on Robot Control*, Vienna (A), pp. 283-288, 2000.

- [IC22] A. Piazzzi, A. Visioli, "Noncausal robust set-point regulation of nonminimum-phase scalar systems", *IEEE International Conference on Decision and Control*, Sidney (AUS), pp. 4098-4103, 2000.
- [IC23] A. Visioli, R. Adamini, G. Legnani, "Adaptive friction compensation for industrial robot control", *IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Como (I), pp. 557-582, 2001.
- [IC24] A. Piazzzi, A. Visioli, "End-point control of a flexible-link via optimal dynamic inversion", *IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Como (I), pp. 936-941, 2001.
- [IC25] E. L. Secco, A. Visioli, G. Magenes, "A minimum jerk approach for the motion planning of a prosthetic finger", *Eighteenth Congress of the International Society of Biomechanics*, Zurich (CH), Lug. 2001.
- [IC26] A. Visioli, L. Zavanella, "Product innovation and manufacturing processes: a fuzzy logic approach", *International Working Conference on Strategic Manufacturing*, Aalborg (DK), pp. 63-73, 2001.
- [IC27] A. Piazzzi, A. Visioli, "LQ-based set-point constrained regulation of uncertain systems via dynamic inversion", *European Control Conference*, Porto (P), pp. 3481-3485, 2001.
- [IC28] A. Piazzzi, A. Visioli, "A dynamic inversion approach to robust set-point regulation of TITO systems", *European Control Conference*, Porto (P), pp. 2676-2681, 2001.
- [IC29] A. Piazzzi, A. Visioli, "Flexible-link end-point control based on exact dynamic inversion: experimental results", *ASME International Mechanical Engineering Congress and Exposition*, New York (USA), 2001.
- [IC30] F. Jatta, R. Adamini, A. Visioli, G. Legnani, "Hybrid force/velocity robot contour tracking: an experimental analysis of friction compensation strategies", *IEEE International Conference on Robotics and Automation*, Washington (USA), pp. 1723-1728, 2002.
- [IC31] A. Piazzzi, A. Visioli, "Robust multivariable set-point regulation via stable dynamic inversion", *15th IFAC World Congress on Automatic Control*, Barcelona (E), 2002.
- [IC32] A. Piazzzi, A. Visioli, "Improved PI control via dynamic inversion", *15th IFAC World Congress on Automatic Control*, Barcelona (E), 2002.
- [IC33] A. Visioli, "Improving the load disturbance rejection performances of IMC-tuned PID controllers", *15th IFAC World Congress on Automatic Control*, Barcelona (E), 2002.
- [IC34] M. Indri, G. Calafiore, G. Legnani, F. Jatta, A. Visioli, "Optimized dynamic calibration of a SCARA robot", *15th IFAC World Congress on Automatic Control*, Barcelona (E), 2002.
- [IC35] C. Fantuzzi, C. Secchi, A. Visioli, "On the fault detection and isolation of industrial robot manipulators", *7th IFAC Symposium on Robot Control*, Wroclaw (Polonia), pp. 473-478, 2003.
- [IC36] F. Jatta, E. Carpanzano, G. Legnani, A. Visioli, "A real time framework for PC-based robot control under the QNX4 operating system", *7th IFAC Symposium on Robot Control*, Wroclaw (PL), pp. 649-654, 2003.
- [IC37] A. Visioli, "A new ratio control architecture", *European Control Conference*, Cambridge (UK), 2003.
- [IC38] A. Piazzzi, A. Visioli, "A toolbox for computing the stability margin of uncertain systems", *European Control Conference*, Cambridge (UK), 2003.

- [IC39] F. Jatta, G. Legnani, A. Visioli, "Hybrid force/velocity control of industrial manipulators with elastic transmissions", *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Las Vegas (USA), pp. 3276-3281, 2003.
- [IC40] F. Jatta, A. Visioli, G. Legnani, "Adaptive friction compensation for hybrid force/velocity robot contour tracking", *11th World Congress in Mechanism and Machine Science*, Tianjin (PRC), 2004.
- [IC41] A. Piazzzi, A. Visioli, "A noncausal approach for the improvement of PID control", *American Control Conference*, Boston (USA), pp. 4022-4027, 2004.
- [IC42] A. Visioli, M. Veronesi, "A ratio control architecture for set-point following and load disturbance rejection", *7th International Symposium and Dynamics and Control of Process Systems*, Cambridge (USA), 2004.
- [IC43] A. Piazzzi, A. Visioli, L. Ciobani, "A toolbox for dynamic inversion based control systems design", *IEEE International Conference on Decision and Control*, Paradise Island (BS), pp. 1289-1294, 2004.
- [IC44] G. Ziliani, G. Legnani, A. Visioli, "A mechatronic design for robotic deburring", *IEEE International Symposium on Industrial Electronics*, Dubrovnik (HR), pp. 1575-1580, 2005.
- [IC45] A. Piazzzi, A. Visioli, "On the use of dynamic inversion for the improvement of PID control", *16th IFAC World Congress on Automatic Control*, Prague (CZ), 2005.
- [IC46] A. Piazzzi, A. Visioli, "Pareto optimal feedforward constrained regulation of MIMO linear systems", *16th IFAC World Congress on Automatic Control*, Prague (CZ), 2005.
- [IC47] G. Ziliani, F. Jatta, G. Legnani, A. Visioli, "A gain-scheduling approach for hybrid force/velocity controlled robot contour tracking", *16th IFAC World Congress on Automatic Control*, Prague (CZ), 2005.
- [IC48] A. Visioli, "Assessment of tuning of PI controllers for self-regulating processes", *16th IFAC World Congress on Automatic Control*, Prague (CZ), 2005.
- [IC49] A. Visioli, "Experimental evaluation of a Plug&Control strategy for level control", *16th IFAC World Congress on Automatic Control*, Prague (CZ), 2005.
- [IC50] A. Visioli, "Model-based PID tuning for high-order processes: when to approximate", *IEEE International Conference on Decision and Control and European Control Conference*, Sevilla (E), pp. 7127-7132, 2005.
- [IC51] A. Piazzzi, A. Visioli, "Combining H-infinity control and dynamic inversion for robust constrained set-point regulation", *IFAC Workshop on Control Applications of Optimisation*, Paris-Cachan (F), pp. 209-214, 2006.
- [IC52] G. Legnani, A. Visioli, G. Ziliani, "An iterative learning control algorithm for contour tracking of unknown objects", *IEEE International Conference on Robotics and Automation*, Orlando (FL), pp. 3318-3323, 2006.
- [IC53] G. Ziliani, G. Legnani, A. Visioli, "Iterative learning control for hybrid force/velocity control", *37th International Symposium on Robotics*, Munich (D), 2006.
- [IC54] A. Visioli, F. Pasini, "A virtual laboratory for the learning of process controllers design", *7th IFAC Symposium on Advances in Control Education*, Madrid (E), pp. 458-462, 2006.
- [IC55] A. Piazzzi, A. Visioli, "A toolbox for input-output system inversion", *7th IFAC Symposium on Advances in Control Education*, Madrid (E), pp. 416-421, 2006.

- [IC56] G. Legnani, A. Visioli, G. Ziliani, "A comparison between implicit and explicit hybrid control for contour tracking", *8th IFAC Symposium on Robot Control*, Bologna (I), pp. 248-256, 2006.
- [IC57] A. Visioli, A. Piazzzi, "An automatic tuning method for cascade control system", *IEEE International Conference on Control Applications*, Munich (D), pp. 2968-2973, 2006.
- [IC58] G. Legnani, A. Visioli, G. Ziliani, N. Pedrocchi, "Automatic deburring of pieces of unknown shape and other force control applications", *38th International Symposium on Robotics*, Chicago (USA), 2007
- [IC59] L. Consolini, A. Piazzzi, A. Visioli, "Minimum-time feedforward control for industrial processes", *European Control Conference*, Kos (GR), pp. 5282-5287, 2007
- [IC60] A. Piazzzi, A. Visioli, "An iterative approach for noncausal feedforward tuning", *American Control Conference*, New York (USA), pp. 1251-1256, 2007.
- [IC61] A. Visioli, G. Ziliani, G. Legnani, "Iterative learning explicit hybrid force/velocity control for contour tracking", *IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Zurich (CH), pp. 1-6, 2007.
- [IC62] S. Piccagli, A. Visioli, "Using a Chebyshev technique for solving the generalized bang-bang control problem", *IEEE International Conference on Decision and Control*, New Orleans (USA), pp. 4743-4748, 2007.
- [IC63] S. Piccagli, A. Visioli, "Minimum-time feedforward plus PID control using a Chebyshev technique", *IEEE International Conference on Decision and Control*, New Orleans (USA), pp. 1795-1800, 2007.
- [IC64] S. Piccagli, A. Visioli, "Minimum-time feedforward plus PID control for MIMO systems", *17th IFAC World Congress*, Seoul (ROK), pp. 12917-12922, 2008.
- [IC65] S. Piccagli, T. van den Boom, A. Visioli, "Minimum-time control of a two-wheeled differentially driven vehicle in the presence of slip", *17th IFAC World Congress*, Seoul (ROK), pp. 6786-6791, 2008.
- [IC66] C. Carnevale, A. Piazzzi, A. Visioli, "A methodology for integrated system identification, PID controller tuning and noncausal feedforward control design", *17th IFAC World Congress*, Seoul (ROK), pp. 13324-13329, 2008.
- [IC67] M. Veronesi, A. Visioli, "A technique for abrupt load disturbance detection in process control systems", *17th IFAC World Congress*, Seoul (ROK), pp. 14900-14905, 2008.
- [IC68] A. Piazzzi, A. Visioli, "Iterative feedforward tuning for residual vibration reduction", *17th IFAC World Congress*, Seoul (ROK), pp. 11829-11834, 2008.
- [IC69] S. Piccagli, A. Visioli, "Using a Chebyshev approach for the minimum-time open-loop control of constrained MIMO systems", *International Conference on Control*, Manchester (UK), 2008.
- [IC70] C. Carnevale, A. Piazzzi, A. Visioli, "Noncausal open-loop control with combined system identification and PID controller tuning", *International Conference on Control*, Manchester (UK), 2008.
- [IC71] A. Visioli, Q.-C. Zhong, "Control of integral processes with dead time: practical issues and experimental results", *International Conference on Control*, Manchester (UK), Sep. 2008.
- [IC72] N. Pedrocchi, A. Visioli, G. Legnani, G. Ziliani, "On the elasticity in the dynamic decoupling of hybrid force/velocity control in the contour tracking task", *IEEE/RSJ*

International Conference on Intelligent Robots and Systems, Nice (F), pp. 955-960, 2008.

- [IC73] M. Veronesi, A. Visioli, "A PID automatic tuning method for distributed-lag processes", *International Symposium on Advanced Control of Chemical Processes*, Istanbul (TR), pp. 762-767, 2009.
- [IC74] M. Beschi, A. Piazzzi, A. Visioli, "On the practical implementation of a noncausal feedforward technique for PID control", *European Control Conference*, Budapest (HU), 2009.
- [IC75] A. Di Fluri, A. Piazzzi, A. Visioli, "Feedforward/feedback control of a magnetic levitation apparatus", *European Control Conference*, Budapest (HU), 2009.
- [IC76] J. Sanchez, M. A. Guarnes, S. Dormido, A. Visioli, "Comparative study of event-based control strategies: an experimental approach on a simple tank", *European Control Conference*, Budapest (HU), 2009.
- [IC77] P. Gervasio, S. Piccagli, A. Visioli, "On the practical implementation of feedforward control signals given in polynomial form", *IEEE International Conference on Emerging Technologies and Factory Automation*, Mallorca (E), 2009.
- [IC78] S. Piccagli, A. Visioli, D. Colombo "An efficient control for a domestic tumble dryer", *IEEE International Conference on Emerging Technologies and Factory Automation*, Mallorca (E), 2009.
- [IC79] O. Arrieta, A. Visioli, R. Vilanova, "Improved PID autotuning for balanced control operation", *IEEE International Conference on Emerging Technologies and Factory Automation*, Mallorca (E), 2009.
- [IC80] E. Pisoni, A. Visioli, S. Dormido, "An interactive tool for fractional order PID controllers", *35th Annual Conference of the IEEE Industrial Electronics Society*, Porto (P), pp. 1468-1473, 2009.
- [IC81] J. Sanchez, A. Visioli, S. Dormido, "An event-based PID controller based on feedback and feedforward actions", *35th Annual Conference of the IEEE Industrial Electronics Society*, Porto (P), pp. 1462-1467, 2009.
- [IC82] F. Padula, A. Visioli, "Tuning of fractional PID controllers for integral processes", *4th IFAC Workshop on Fractional Differentiation and Its Applications*, Badajoz (E), 2010.
- [IC83] F. Padula, A. Visioli, "Set-point weighting for fractional PID controllers", *4th IFAC Workshop on Fractional Differentiation and Its Applications*, Badajoz (E), 2010.
- [IC84] S. Dormido, E. Pisoni, A. Visioli, "An interactive tool for loop-shaping design of fractional-order PID controllers", *4th IFAC Workshop on Fractional Differentiation and Its Applications*, Badajoz (E), 2010.
- [IC85] A. Visioli, M. Ammannito, M. Caselli, M. Incardona, "Optimization of a water for injection control system for a pharmaceutical plant", *8th European Workshop on Advanced Control and Diagnosis*, Ferrara (I), pp. 64-67, 2010.
- [IC86] M. Veronesi, A. Visioli, "An automatic tuning method for multiloop PID controllers", *18th IFAC World Congress*, Milan (I), pp. 7517-7522, 2011.
- [IC87] M. Veronesi, A. Visioli, "Global minimum-variance PID control", *18th IFAC World Congress*, Milan (I), pp. 7891-7896, 2011.
- [IC88] M. Beschi, M. Berenguel, A. Visioli, L. Yebra, "Control strategies for disturbance rejection in a solar furnace", *18th IFAC World Congress*, Milan (I), pp. 12243-12248, 2011.

- [IC89] S. Piccagli, A. Visioli, "PID tuning for minimum-time rest-to-rest transitions", *18th IFAC World Congress*, Milan (I), pp. 5771-5776, 2011.
- [IC90] F. Padula, R. Vilanova, A. Visioli, "H_∞ optimal interpolation for fractional first order plus dead time systems", *Symposium on Fractional Signals and Systems*, Coimbra (P), 2011.
- [IC91] M. Beschi, S. Dormido, J. Sanchez, A. Visioli, "On the presence of equilibrium points in PI control systems with send-on-delta sampling", *50th IEEE Conference on Decision and Control and European Control Conference*, Orlando (USA), pp. 7843-7848, 2011.
- [IC92] J. Chacon, J. Sanchez, S. Dormido, A. Visioli, "Design of an event-based feedforward strategy for SOPTD processes", *50th IEEE Conference on Decision and Control and European Control Conference*, Orlando (USA), pp. 5431-5434, 2011.
- [IC93] M. Veronesi, A. Visioli, "Performance assessment and retuning of PID controllers for load disturbance rejection", *IFAC Conference on Advances in PID Control*, Brescia (I), pp. 530-535, 2012.
- [IC94] J. Chacon, J. Sanchez, A. Visioli, S. Dormido, "Decentralised control of a quadruple tank with a decoupled event-based strategy", *IFAC Conference on Advances in PID Control*, Brescia (I), pp. 424-429, 2012.
- [IC95] M. Beschi, S. Dormido, J. Sanchez, A. Visioli, "On the stability of an event-based PI controller for FOPDT processes", *IFAC Conference on Advances in PID Control*, Brescia (I), pp. 436-441, 2012.
- [IC96] S. Dormido, M. Beschi, J. Sanchez, A. Visioli, "An interactive software tool for the study of event-based PI controller", *IFAC Conference on Advances in PID Control*, Brescia (I), pp. 458-462, 2012.
- [IC97] L. Consolini, G. Lini, A. Piazzzi, A. Visioli, "Minimum-time rest-to-rest feedforward action for PID feedback MIMO systems", *IFAC Conference on Advances in PID Control*, Brescia (I), pp. 217-222, 2012.
- [IC98] S. Piccagli, A. Visioli, "A feedforward plus decoupling control design for set-point following of TITO processes", *American Control Conference*, Montreal (CDN), pp. 2374-2379, 2012.
- [IC99] M. Beschi, M. Berenguel, A. Visioli, J. L. Guzman, L. J. Yebra, "A feedback linearization GPC control strategy for a solar furnace", *American Control Conference*, Montreal (CDN), pp. 2244-2249, 2012.
- [IC100] M. Beschi, S. Dormido, J. Sanchez, A. Visioli, "A new two degree-of-freedom event-based PI control strategy", *American Control Conference*, Montreal (CDN), pp. 2362-2367, 2012.
- [IC101] F. Padula, R. Vilanova, A. Visioli, "H-infinity model matching design for fractional FOPDT systems", *American Control Conference*, Montreal (CDN), pp. 5513-5518, 2012.
- [IC102] F. Padula, A. Visioli, M. Pagnoni, "On the anti-windup schemes for fractional-order PID controllers", *IEEE International Conference on Emerging Technologies and Factory Automation*, Krakow (PL), 2012.
- [IC103] J. Chacon, J. Sanchez, A. Visioli, S. Dormido, "Analysis of the limit cycles in the PI control of IPD processes with send-on-delta sampling", *IEEE International Conference on Control Applications*, Dubrovnik (HR), pp. 1609-1614, 2012.

- [IC104] M. Beschi, S. Dormido, J. Sanchez, A. Visioli, L. Yebra, "Event-based PI plus feedforward control for a distributed solar collector field", *10th European Workshop on Advanced Control and Diagnosis*, Copenhagen (DK), 2012.
- [IC105] F. Padula, A. Visioli, "Optimal set-point regulation of fractional systems", *IFAC Workshop on Fractional Differentiation and its Applications*, Grenoble (F), pp. 906-911, pp. 911-916, 2013.
- [IC106] M. Beschi, S. Dormido, J. Sanchez, A. Visioli, "Stability analysis of symmetric send-on-delta event-based control systems", *American Control Conference*, Washington DC (USA), pp. 1771-1776, 2013.
- [IC107] M. Veronesi, A. Visioli, "Automatic feedforward tuning for PID control loops", *European Control Conference*, Zurich (CH), pp. 3919-3924, 2013.
- [IC108] F. Padula, A. Visioli, "Inversion-based feedforward design for constrained fractional control systems", *European Control Conference*, Zurich (CH), 2013.
- [IC109] J. Chacon, J. Sanchez, L. Yebra, A. Visioli, S. Dormido, "Experimental study of two event-based PI controllers in a solar distributed collector field", *European Control Conference*, Zurich (CH), 2013.
- [IC110] F. Padula, A. Visioli, "An approach for teaching automatic control in a laboratory of mechatronics", *IFAC Symposium on Advances in Control Education*, Sheffield (UK), pp. 214-219, 2013.
- [IC111] J. Chacón, J. Sánchez, A. Visioli, S. Dormido, "Building process control simulations with Easy Java Simulations elements", *IFAC Symposium on Advances in Control Education*, Sheffield (UK), pp. 138-143, 2013.
- [IC112] F. Padula, A. Visioli, "Optimal tuning of ideal fractional-order PID controllers for FOPDT processes", *The International Conference on Fractional Signals and Systems*, Ghent (B), 2013.
- [IC113] F. Padula, A. Visioli, "Optimal feedback/feedforward control of fractional FOPDT uncertain systems", *The International Conference on Fractional Signals and Systems*, Ghent (B), 2013.
- [IC114] M. Beschi, A. Visioli, M. Berenguel, L. Roca, "A feedback linearization-based two-degree-of-freedom constrained controller strategy for a solar furnace", *39th Annual Conference of the IEEE Industrial Electronics Society*, Vienna (A), pp. 3228-3233, 2013.
- [IC115] M. Beschi, S. Dormido, J. Sanchez, A. Visioli, "An automatic tuning procedure for an event-based PI controller", *52th IEEE Conference on Decision and Control*, Firenze (I), pp. 7437-7442, 2013.
- [IC116] F. Padula, A. Visioli, "Inversion-based set-point filter design for fractional control systems", *International Conference on Fractional Differentiation and its Applications*, Catania (I), 2014.
- [IC117] R. Leuzzi, P. Lino, G. Maione, S. Stasi, F. Padula, A. Visioli, "Combined fractional feedback-feedforward controller design for electrical drives", *International Conference on Fractional Differentiation and its Applications*, Catania (I), 2014.
- [IC118] M. Beschi, A. Pawlowski, J. L. Guzman, M. Berenguel, A. Visioli, "Symmetry send-on-delta PI control of a greenhouse system", *19th IFAC World Congress*, Cape Town (ZA), pp. 4411-4416, 2014.
- [IC119] M. Beschi, S. Dormido, J. Sanchez, A. Visioli, "Event-based PI controller with exponential thresholds", *19th IFAC World Congress*, Cape Town (ZA), pp. 5766-5771, 2014.

- [IC120] J. Chacon, M. Beschi, J. Sanchez, A. Visioli, S. Dormido, "An experimental framework to analyze limit cycles generated by event-based sampling", *19th IFAC World Congress*, Cape Town (ZA), pp. 9051-9056, 2014.
- [IC121] J. Chacon, M. Beschi, J. Sanchez, A. Visioli, S. Dormido, "Experimental analysis of a remote event-based PID controller in a flexible link system", *IEEE International Conference on Emerging Technologies and Factory Automation*, Barcelona (E), 2014.
- [IC122] D. Gorni, A. Visioli, "Practical issues in modelling the temperature for the control of smart buildings", *11th European Workshop on Advanced Control and Diagnosis*, Berlin (D), 2014.
- [IC123] M. Beschi, S. Dormido, J. Sanchez, A. Visioli, "An event-based PI controller autotuning technique for integral processes", *First IEEE International Conference on Event-Based Control, Communication and Signal Processing*, Krakow (PL), 2015.
- [IC124] H. S. Sanchez, R. Vilanova, A. Visioli, "Nash Tuning for Optimal Balance of the Servo/Regulation Operation in Robust PID Control", *23rd Mediterranean Conference on Control and Automation*, Torremolinos (E), 2015.
- [IC125] J. Sáenz, J. Chacón, L. de la Torre, A. Visioli, S. Dormido, "A virtual and remote lab of the two electric coupled drives system in the university network of interactive laboratories", *American Control Conference*, Chicago (USA), 2015.
- [IC126] F. Padula, C. Ionescu, N. Latronico, M. Paltenghi, A. Visioli, G. Vivacqua, "A gain-scheduled PID controller for propofol dosing in anesthesia", *9th IFAC Symposium on Biological and Medical Systems*, Berlin (D), 2015.
- [IC127] F. Padula, A. Visioli, D. Facchinetti, A. Saleri, "A dynamic inversion approach for oscillation-free control of overhead cranes", *IEEE International Conference on Emerging Technologies and Factory Automation*, Luxembourg, 2015.
- [IC128] D. Gorni, M. Castilla, J. D. Alvarez, A. Visioli, "A comparison between temperature modelling strategies in smart buildings", *IEEE International Conference on Emerging Technologies and Factory Automation*, Luxembourg, 2015.
- [IC129] L. Simoni, M. Beschi, D. Colombo, A. Visioli, R. Adamini, "A Hardware-In-the-Loop setup for rapid control prototyping of mechatronic systems", *IEEE International Conference on Emerging Technologies and Factory Automation*, Luxembourg, 2015.
- [IC130] E. Guevara, H. Meneses, O. Arrieta, R. Vilanova, A. Visioli, F. Padula, "Fractional order model identification: computational optimization", *IEEE International Conference on Emerging Technologies and Factory Automation*, Luxembourg, 2015.
- [IC131] O. Arrieta, L. A. Urvina Savelli, A. Visioli, R. Vilanova, F. Padula, "Servo/regulation intermediate tuning for fractional-order PID controllers", *IEEE Multi-Conference on Systems and Control*, Sydney (AUS), 2015.
- [IC132] L. Simoni, M. Beschi, G. Legnani, A. Visioli, "Friction modelling with temperature effects for industrial robot manipulators", *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Hamburg (D), 2015.
- [IC133] A. Ruiz, J. Jimenez-Hornero, M. L. Ruz, S. Dormido, A. Visioli, "Interactivity-based control education: Some experiences at the University of Cordoba", *IFAC Workshop on Internet Based Control Education*, Brescia (I), 2015.

- [IC134] J. Chacón, G. Farias, H. Vargas Oyarzun, A. Visioli, S. Dormido, “Remote Interoperability Protocol: a bridge between interactive interfaces and engineering systems”, *IFAC Workshop on Internet Based Control Education*, Brescia (I), 2015.
- [IC135] M. Beschi, R. Adamini, A. Marini, A. Visioli, “Using of the Robotic Operating System for PID control education”, *IFAC Workshop on Internet Based Control Education*, Brescia (I), 2015.
- [IC136] L. Merigo, M. Beschi, F. Padula, A. Visioli, “A new event generator for PIPlus control systems”, *Second International Conference on Event-Based Control, Communication and Signal Processing*, Krakow (PL), 2016.
- [IC137] G. Legnani, L. Simoni, M. Beschi, A. Visioli, “A new friction model for mechanical transmissions considering joint temperature”, *Proceedings of ASME 2016 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Charlotte (USA), 2016.
- [IC138] M. Faroni, M. Beschi, A. Visioli, L. Molinari Tosatti, “A global approach to manipulability optimisation for a dual-arm manipulator”, *IEEE International Conference on Emerging Technologies and Factory Automation*, Berlin (D), 2016.
- [IC139] D. Gorni, A. Visioli, “Optimal temperature set-point planning for residential buildings”, *IEEE International Conference on Emerging Technologies and Factory Automation*, Berlin (D), 2016.
- [IC140] L. Simoni, M. Beschi, D. Colombo, A. Visioli, “Multi-frequency disturbance compensation in a plastic injection molding machine”, *IEEE International Conference on Emerging Technologies and Factory Automation*, Berlin (D), 2016.
- [IC141] L. Merigo, M. Beschi, F. Padula, N. Latronico, M. Paltenghi, A. Visioli, “Event based control of propofol and remifentanil coadministration during clinical anesthesia”, *Third International Conference on Event-Based Control, Communication and Signal Processing*, Funchal (P), 2017.
- [IC142] A. Pawlowski, L. Merigo, J. L. Guzmán, A. Visioli, S. Dormido, “Event-based GPC for depth of hypnosis in anesthesia for efficient use of propofol”, *Third International Conference on Event-Based Control, Communication and Signal Processing*, Funchal (P), 2017.
- [IC143] F. Padula, A. Visioli, “On the fragility of fractional-order PID controllers for IPDT processes”, *25th Mediterranean Conference on Control and Automation*, Valletta (M), 2017.
- [IC144] R. Vilanova, V. Alfaro, A. Visioli, “Software tool for MoReRT design of 2DoF PI/PID controllers”, *25th Mediterranean Conference on Control and Automation*, Valletta (M), 2017.
- [IC145] F. Padula, R. Adamini, G. Finzi, A. Visioli, “Revealing the hidden technology by means of an overhead crane”, *20th IFAC World Congress*, Toulouse (F), 2017.
- [IC146] M. Veronesi, A. Visioli, “Process parameters estimation, performance assessment and controller retuning based on the final value theorem: some extensions”, *20th IFAC World Congress*, Toulouse (F), 2017.
- [IC147] M. Faroni, M. Beschi, L. Molinari Tosatti, A. Visioli, “A predictive approach to redundancy resolution for robot manipulators”, *20th IFAC World Congress*, Toulouse (F), 2017.
- [IC148] L. Simoni, M. Beschi, G. Legnani, A. Visioli, “On the inclusion of temperature in the friction model of industrial robots”, *20th IFAC World Congress*, Toulouse (F), 2017.

- [IC149] L. Merigo, F. Padula, N. Latronico, T. Mendonca, M. Paltenghi, P. Rocha, A. Visioli, "On the identification of the propofol PK/PD model using BIS measurements", *20th IFAC World Congress*, Toulouse (F), 2017.
- [IC150] D. Gorni, A. Visioli, "Genetic-based optimization of temperature set-point signals for buildings with unoccupied rooms", *20th IFAC World Congress*, Toulouse (F), 2017.
- [IC151] M. Veronesi, J. L. Guzman, A. Visioli, T. Hagglund, "Closed-loop tuning rules for feedforward compensator gains", *20th IFAC World Congress*, Toulouse (F), 2017.
- [IC152] R. Vilanova, V. Alfaro, A. Visioli, M. Barbu, "Considerations on the disturbance attenuation problem for PI/PID controllers for a generic load disturbance dynamics", *IEEE International Conference on Emerging Technologies and Factory Automation*, Limassol (CY), 2017.
- [IC153] L. Merigo, M. Beschi, F. Padula, A. Visioli, "On the tuning of a PIDPlus control system with a noise-filtering event generator", *IEEE International Conference on Emerging Technologies and Factory Automation*, Limassol (CY), 2017.
- [IC154] M. Faroni, M. Beschi, M. Berenguel, A. Visioli, "Fast MPC with staircase parametrization of the inputs: continuous input blocking", *IEEE International Conference on Emerging Technologies and Factory Automation*, Limassol (CY), 2017.
- [IC155] L. Simoni, E. Villagrossi, M. Beschi, A. Marini, N. Pedrocchi, L. Molinari Tosatti, G. Legnani, A. Visioli, "On the use of a temperature based friction model for a virtual force sensor in industrial robot manipulators", *IEEE International Conference on Emerging Technologies and Factory Automation*, Limassol (CY), 2017.
- [IC156] J. Sanchez, M. Guinaldo, S. Dormido, A. Visioli, "An improved relay-based identification approach based on asymmetric oscillations", *IFAC Conference on Advances in PID Control*, Ghent (B), 2018.
- [IC157] M. Veronesi, A. Visioli, "Optimized retuning of PID controllers for TITO processes", *IFAC Conference on Advances in PID Control*, Ghent (B), 2018.
- [IC158] L. Merigo, F. Padula, N. Latronico, T. Mendonca, M. Paltenghi, P. Rocha, A. Visioli, "Optimized PID tuning for the automatic control of neuromuscular blockade", *IFAC Conference on Advances in PID Control*, Ghent (B), 2018.
- [IC159] A. Pawlowski, L. Merigo, J. L. Guzmán, S. Dormido, A. Visioli, "Two-degree-of-freedom control scheme for depth-of-hypnosis in anesthesia", *IFAC Conference on Advances in PID Control*, Ghent (B), 2018.
- [IC160] M. Giacomelli, D. Colombo, L. Simoni, G. Finzi, A. Visioli, "A fast autotuning method for velocity control of mechatronic systems", *IFAC Conference on Advances in PID Control*, Ghent (B), 2018.
- [IC161] H. Meneses, E. Guevara, O. Arrieta, F. Padula, R. Vilanova, A. Visioli, "Improvement of the control system performance based on fractional-order PID controllers and models with robustness considerations", *IFAC Conference on Advances in PID Control*, Ghent (B), 2018.
- [IC162] S. Ghidini, M. Beschi, N. Pedrocchi, A. Visioli, "Robust tuning rules for series elastic actuator PID cascade controllers", *IFAC Conference on Advances in PID Control*, Ghent (B), 2018.
- [IC163] Z. Guo, A. Medvedev, L. Merigo, N. Latronico, M. Paltenghi, A. Visioli, "Synthetic patient database of drug effect in general anesthesia for evaluation of estimation and

- control algorithms”, *18th IFAC Symposium on System Identification*, Stockholm (S), 2018.
- [IC164] M. Faroni, D. Gorni, A. Visioli, “Energy minimization in time-constrained robotic tasks via sequential quadratic programming”, *IEEE International Conference on Emerging Technologies and Factory Automation*, Turin (I), 2018.
- [IC165] M. Giacomelli, M. Faroni, D. Gorni, A. Marini, L. Simoni, A. Visioli, “Model Predictive Control for operator-in-the-loop overhead cranes”, *IEEE International Conference on Emerging Technologies and Factory Automation*, Turin (I), 2018.
- [IC166] M. Giacomelli, M. Faroni, D. Gorni, A. Marini, L. Simoni, A. Visioli, “MPC-PID control of operator-in-the-loop overhead cranes: a practical approach”, *7th International Conference on Systems and Control*, Valencia (E), 2018.
- [IC167] A. Tosi, L. Roca, J. D. Gil, A. Visioli, M. Berenguel, “Multivariable controller for stationary flat plate solar collectors”, *7th International Conference on Systems and Control*, Valencia (E), 2018.
- [IC168] J. A. Rossiter, K. Zakova, M. Huba, A. Serbezov, A. Visioli, “On an IFAC online pilot survey for a first course on control”, *5th Experiment@ International Conference*, Funchal (P), 2019.
- [IC169] L. Merigo, F. Padula, N. Latronico, M. Paltenghi, A. Visioli, “Optimized tuning of an IMC scheme for depth of hypnosis control”, *European Control Conference*, 2019.
- [IC170] E. Rodríguez Miranda, M. Beschi, J. L. Guzman, M. Berenguel, A. Visioli, “Application of a Symmetrical-Send-On-Delta event-based controller for a microalgal raceway reactor”, *European Control Conference*, 2019.
- [IC171] J. A. Rossiter, K. Zakova, M. Huba, A. Serbezov, A. Visioli, “A first course in feedback, dynamics and control: Preliminary findings of a survey for the IFAC community”, *European Control Conference*, 2019.
- [IC172] C. Carnevale, G. Finzi, F. Padula, A. Visioli, “A simple mechatronic system for teaching control concepts to industrial automation students”, *European Control Conference*, 2019.
- [IC173] J. A. Rossiter, K. Zakova, M. Huba, A. Serbezov, A. Visioli, “A first course in feedback, dynamics and control: findings from an online pilot survey for the IFAC community”, *12th IFAC Symposium on Advances in Control Education*, Philadelphia (USA), 2019.
- [IC174] A. Radici, C. YangQuan, F. Padula, A. Visioli, “A laboratory setup for an introduction to fractional order systems”, *12th IFAC Symposium on Advances in Control Education*, Philadelphia (USA), 2019.
- [IC175] M. Cech, J. Konigsmarkova, M. Goubelj, T. Oomen, A. Visioli, “Essential challenges in motion control education”, *12th IFAC Symposium on Advances in Control Education*, Philadelphia (USA), 2019.
- [IC176] T. Hagglund, A. Visioli, “Inversion-based feedforward actions in a ratio control system”, *American Control Conference*, 2019.