

# Curriculum Vitae of Franco Blanchini

## April 2023



### 1 Generalities

- Franco Blanchini was born in Legnano (MI), Italy, on 29 December 1959.
- Address: Dipartimento di Matematica e Informatica, Università degli Studi di Udine, Via Delle Scienze 206, 33100, Udine, Italy.
- Email: [Blanchini@uniud.it](mailto:Blanchini@uniud.it), Tel: int + 39 0432 558466; Fax: int + 39 0432 558499.
- Home page: <http://users.dimi.uniud.it/~franco.blanchini/>
- Married.
- Senior Member IEEE.

#### 1.1 Education

- 1984: Master Degree in Electrical Engineering achieved on 4 April 1984 at the University of Trieste, Italy.
- 1984: Italian Engineering Professional Title.

#### 1.2 Current position

- Professor of Automatic Control at the Faculty of Engineering of the University of Udine (since 2000/November).
- Member of the Department of Mathematics and Computer Science of the University of Udine.
- Director of the Dynamic System Laboratory (since 2005/November).

#### 1.3 Previous positions

- 1986/July: Lecturer of Automatic Control at the Faculty of Science of the University of Udine.
- 1992/November: Associate Professor of Automatic Control at the Faculty of Engineering of the University of Udine.
- October 2009–October 2012: Dean of the Department of Mathematics and Computer Science.

## 2 Scientific activity

### 2.1 Expertize fields

- Numerical methods for analysis and synthesis of linear systems.
- Generalized state-space (descriptor) linear systems.
- Robust control.
- Lyapunov methods.
- $\mathcal{L}^1$  optimal control theory.
- Control of systems with input and output constraints.
- High-gain adaptive control.
- Theory and application of invariant sets.
- Linear Parameter-Varying systems.
- Switching systems.

### 2.2 Main application areas of interest

- Control of mechanical systems.
- Control of communication networks.
- Control of production-distribution systems.
- Systems Biology.

## 3 Editorial and organization activity

### 3.1 Conference program committee

- 1997: Member of the Program Committee of the 36th IEEE Conference on Decision and Control, S. Diego, California.
- 1999: Member of the Program Committee of the 38th IEEE Conference on Decision and Control, Phoenix, Arizona.
- 2001: Member of the Program Committee of the 40th IEEE Conference on Decision and Control, Orlando, Florida.
- 2003: Member of the International program committee of the 4th IFAC Symposium on Robust Control Design, Milan, Italy 25-27 June 2003.
- 2003: Member of the International program committee of First Multidisciplinary International Symposium on Positive Systems: Theory and Application University of Rome "La Sapienza", Roma, Italy, 28-30 August 2003.
- 2003: Member of the Program Committee of the 42th IEEE Conference on Decision and Control, Maui, Hawaii, USA.
- 2004: Member of the Committee CDC Best Student Paper Award.

- 2005: Member of the Committee CDC Best Student Paper Award.
- 2006: Member of the Program Committee of the IFAC Workshop, Analysis and design of Hybrid Systems, Alghero Sardegna, Italia.
- 2009 Member of the Program Committee for the conference, ROCOND 09, Haifa, Israel, 2009.

### 3.2 Chair and Co-chair positions

- 2002: Program Chair of “Uncertain Dynamical Systems”, workshop of the IFAC Technical Committee on Robust Control, July 18, 19 and 20, 2002, Cascais, Portugal.
- 2005: Vice Program Chair for the Joint Conference on Decision and Control—European Control Conference, Seville, Spain, December 2005.
- 2008 Vice Program Chairman for Tutorial Sessions, CDC-08, Cancun, Mexico, December, 2008.
- 2012 Program Chair for the conference, ROCOND 2012, Aalborg, Denmark, June 2012.
- Vice Program Chair for the Conference on Decision and Control, Florence, Italy, December 2013.

### 3.3 Reviewing activity

- Reviewer for the following journals (with more than 200 reviewed articles): International Journal of Control, IEEE Transactions on Automatic Control, IEEE Transactions on Circuit and Systems, Automatica, IEE Proceedings Part D, Dynamics and Control, Journal of Optimization Theory and Applications, Systems and Control Letters, SIAM Journal on Optimization, Electronic Letters, IEEE Transactions on Robotics and Automation. Reviewer for the following international conferences: Conference on Decision and Control, American Control Conference and IFAC World Congress.
- Outstanding Reviewer for Automatica, 2006.
- Reviewer of the book “Control of linear systems with regulation and input constraints, by A. Saberi, A. Stoorvogel and P. Sannuti”, Springer, London”.
- Reviewer of the book “Actuator Saturation Control, by V. Kapila and K.M. Grigoriadis, Marcel Dekker (with S. Miani).

### 3.4 Editorial activity

- July 1996–June 2006: Associate Editor of Automatica (with more than 150 handled papers).
- January 2012–December 2016: Associate Editor of IEEE Transactions on Automatic Control.
- From January 2017: Associate Editor of Automatica.
- 2017-2018: Senior Editor for IEEE Control Systems Letters.
- 2019: Guest Editor for the Special Issue of IEEE CSS Letters on Control and Network Theory for Biological Systems.

### 3.5 Research projects

- 1992: Manager the CNR scientific project “Robust Computer-Based Control”;
- 1993: Manager of the CNR scientific project “Optimization and management of production systems” — 93.03334.CT11;
- 1994: Local manager of the CNR scientific project “Control of resources production and distribution” — 94.00543.CT11;
- 1996: Local manager of the CNR scientific project “Dynamic optimization of production-distribution networks” — 96.03865.CT11;
- 1997: Local manager of the CNR scientific project “Dynamic optimization of production-distribution networks” — 97.00379.CT11;
- 1998: Local manager of the CNR scientific project “Dynamic optimization of production-distribution networks” — 98.00558.CT11.
- 1999: CNR/MOSA scientific project Italy-Israel (Italian team manager) “Stochastic optimal control of production-distribution Systems: Theory, On-and Off-Line Applications”.
- 2001: Local manager of the MURST scientific project “Gain-scheduling and robust control for time-varying uncertain systems”, within the national project “Robust control of uncertain systems”.
- 2005: National manager of the MURST scientific project “Robust and Optimal Techniques for High Performance Control”.
- 2007 National manager of the MURST scientific project “Advanced control techniques for innovative applications”.
- 2007 Contract with Mangiarotti company Sedegliano (UD), Italy, “Automation of cutting and welding processes”.
- 2009 Contract with Rosaplast company Spilimbergo (UD), Italy, “Optimal scheduling for pressing painting machines”

## 4 International research activity

### 4.1 International cooperations

- September 1990: Visiting professor at the College of Mechanical Engineering, Berkeley (invited by Prof G. Leitmann);
- June 1992: Visiting professor at University of Central Florida, Orlando, (invited by Prof. Sznaier);
- June 1995: Visiting professor at Pennsylvania State University, State College, (invited by Prof. Sznaier);
- September 1996: Visiting professor at School of Mathematics, Bath, United Kingdom (invited by Prof. Ryan);
- January 2000: Visiting professor at the University of Tel-Aviv (research supported by CNR/MOSA) (invited by Prof. E. Khmelnitsky).
- January 2006: Visiting professor at Kyoto University (invited by Prof. T. Sugie)
- September 2013: Visiting professor at Riverside University, CA, USA (invited by Prof. E. Franco)

## 4.2 Invited presentations

1. F. Blanchini, “Ultimate Boundedness Control for Discrete-Time Uncertain Systems via Set Induced Lyapunov Functions“ *Workshop of the IFAC Working Group*, Cappel, Switzerland, September 1991.
2. F. Blanchini, “Non-quadratic Lyapunov functions for robust control“ *Workshop of the IFAC Working Group*, Cairns, Australia, July 1993.
3. F. Blanchini, S. Miani, “A universal class of smooth functions for robust control”, *Workshop of the IFAC Working Group*, Napa, California, July 1996.
4. M. Sznaier, F. Blanchini, “Multiobjective robust control: linear versus nonlinear controllers”, *Workshop of the IFAC Working Group*, Napa, California, July 1996.
5. F. Blanchini and S. Miani, “Dynamic programming methods in robust analysis and synthesis: old ideas and new recent developments”, *Workshop on Robustness in Identification and Control*, Certosa di Pontignano (SI), Italy, 30 July – 2 August 1998.
6. F. Blanchini, “The gain scheduling and the robust state feedback stabilization problems”, *Workshop of the IFAC Working Group*, Hong-Kong, July 1999.
7. F. Blanchini, S. Miani, R. Pesenti, F. Rinaldi, W. Ukovich, “Robust control of production distribution systems”, *Workshop on “Perspective in Robust Control”*, Newcastle, Australia, 6–8 Dec. 2000.
8. F. Blanchini and S. Miani, “Stabilization of LPV systems: state feedback, state estimation and duality” , *Workshop of the IFAC Working Group*, Cascais, July 18, 19 and 20, 2002, Cascais, Portugal.
9. F. Blanchini and F.A. Pellegrino, “Relatively optimal control” , *Seminar at ETH*, Zurich, 2004.
10. F. Blanchini and S. Miani, “Relatively optimal control” , *Workshop of the IFAC Working Group*, June 29, 2005, Delft, The Netherlands.
11. F. Blanchini, “Controlling systems via set–theoretic methods”, *Seminar at ETH*, Zurich, 2007.
12. F. Blanchini, “Switching and Switched systems”, *Seminar at Marrakech, Maroch, Faculty of Science*, 2008.
13. F. Blanchini, S. Miani and F. Mesquine, “Separation principles, and controller realization for linear switching and LPV systems” , *Seminar at Hamilton Institute, Maynooth, Ireland*, October 2009
14. F. Blanchini and S. Miani, “Parameterization of all stabilizing controllers for LPV systems” , *Workshop of the IFAC Working Group*, August, 2011, Udine, Italy.
15. F. Blanchini, “Lyapunov and Invariance methods in control” , Stuttgart, Germany, April 2012.
16. F. Blanchini, G. Giordano, “Structural properties and robustness in biochemical networks” , *Workshop of the IFAC Working Group*, BAMsterdam, July 2014.
17. F. Blanchini, G. Fenu, G. Giordano, F.A. Pellegrino, “Model-free plant tuning” , *Workshop of the IFAC Working Group*, Banyulus, July 2017.
18. Self control: il segreto della vita, Incontro con Franco Blanchini, Bruno Burlando, Giulia Giordano, Festival della Scienza, Genova, 26 Novembre 2019.
19. Mathematics of control across disciplines, Oxford (on-line seminar), 22 Novembre 2021.

### 4.3 Plenary lectures

- Speaker (with A. Stoorvogel) for the plenary lecture “Minicourse on Saturation in Control”, 19th Benelux Meeting on Systems and Control, Mierlo, The Netherlands, March 1–3, 2000.
- Speaker for the plenary lecture “Lyapunov and invariance methods in control design”, IFAC Joint Conference, Grenoble, February 2013.
- Speaker for the plenary lecture “Set invariance and Lyapunov methods”, 32nd Benelux Meeting on Systems and Control, Houffalize, Belgium, March 2013.
- Invited speaker for the semi-plenary lecture “Structural Analysis: The Control Language to Understand Mechanisms”, 59th Conference on Decision and Control - Jeju Island, Republic of Korea - December 14th-18th 2020.
- Invited speaker for the plenary lecture “The Mathematics of Mechanisms”, 27th International Conference on Difference Equations and Applications,

## 5 Awards

- 2001: recipient of the *20022001 ASME Oil & Gas Application Committee Best Paper Award* as a co-author of the article F. Blanchini and P. Giannattasio, P. Pinamonti and D. Micheli, ”Experimental Evaluation of a High-Gain Control for Compressor Surge Suppression”, ASME Journal on Turbomachinery, Vol. 124, no.1, pp.27-35, 2002.
- 2002: recipient of the *2002 IFAC prize survey paper award* as author of the article F. Blanchini, “Set invariance in control”, *Automatica*, no. 11, pp.1747–1768, Nov. 1999.
- 2017: recipient of the *IFAC Prize Nonlinear Analysis and Hybrid Systems Best Paper Award* for the paper “A switching system approach to dynamic race modeling, *Nonlinear Analysis and Hybrid Systems*, vol. 21, no. 8, pp. 37-48, 2016.
- 2017: recipient of the *IFAC High Impact Paper Award* for the paper F. Blanchini, “Set invariance in control”, *Automatica*, no. 11, pp.1747–1768, Nov. 1999.

## 6 Teaching activity

### 6.1 University Courses

- 1985-86: Professor of Numerical Analysis at the Faculty of Scienze of the University of Udine.
- 1986-91: Lecturer of System Theory at the Faculty of Scienze of the University of Udine.
- 1992-today: Professor of System Theory and Automatic Control Faculty of Engineering of the University of Udine.

### 6.2 Scientific Laboratory

- Director and founder of the Laboratory of Dynamic Systems of the University of Udine (<http://www.dimi.uniud.it/~franco/SysDynLab.html>)

### 6.3 Courses and lectures

- July–September 1999: Professional Course at Danieli Company, Buttrio (UD) on “Analysis and Synthesis via State–Space Methods”.
- July 1999: Course on “Positively invariant sets and their applications in the control of constrained uncertain systems”, Summer School on Modern control theory, Università di Roma Tre, 7-19, June 1999.
- July 2000: Lecture on “Robust control for time–varying systems”, School on Robust Control, (Scuola di Dottorato CIRA), July 17-21 2000, Bertinoro, Italy.
- Lecture on: “Robust Stability and Stabilization via Lyapunov Methods”, Advanced School on Identification and Robust Control, Siena, 8-9 Novembre 2002.
- March 2003: Lecture on “Lyapunov Methods in Robust Control”, Università di Palermo, Palermo, Italy.
- July 2003: Lecture on “Controlled invariant sets”, School on Hybrid Systems, July 17-19 , (Scuola di Dottorato CIRA), 2003 Bertinoro, Italy.
- October 16-17, and November 13–14, 2003: Course on “Lyapunov methods in robustness”, Politecnico di Milano, Milano, Italy.
- April 2006, course for PhD Students “Lyapunov methods in robustness”, Grenoble, 2006.
- April 2009, course for PhD Students “Lyapunov methods in robustness”, Grenoble, 2006.
- July 2009, Organizer of the school (with Patrizio Colaneri), on “Robust and constrained control”, July 13-18 , (Scuola di Dottorato CIRA), 2009, Bertinoro, Italy.
- Lecture on “Structural analysis in systems biology”, School of Systems Biology (Scuola di Dottorato CIRA), 8-13 Luglio 2013.
- April 2014, course for PhD Students “Lyapunov methods in robustness”, Grenoble, 2014.
- April 2016, course for PhD Students “Lyapunov methods in robustness”, Grenoble, 2016.
- May 2018, “Control-theoretic tools for the analysis of biological systems”, School IASI-CNR, SYSBIO.IT, May 9, 2018.
- February 2019, “Biology, medicine, mathematics, engineering, physics, computer science: why should they interact?”, Lecture for Medicine students, ISSUGE, Genova, 2019.
- July 2019, “Mathematics and systems biology: Biology, medicine, mathematics, engineering, physics, computer science: why should they interact?”, School on “Biosystems and Health: How to Take Advantage of Signal and System Modeling,” CISM, Udine, 2019.

## Bibliography

### International Journals

- 145** F. Blanchini, F. Dabbene, G. Fenu, A. Pellegrino, E. Salvato "Model-free feedback control synthesis from human demonstration", *IEEE Control Systems Letters*, to appear.
- 144** Bruno Burlando, Viviana Mucci, Cherylea J Browne, Serena Losacco, Iole Indovina, Lucio Marinelli, Franco Blanchini, Giulia Giordano "Mal de Debarquement Syndrome explained by a vestibulo-cerebellar oscillator", *Mathematical Medicine and Biology: A Journal of the IMA*, dqac016, <https://doi.org/10.1093/imammb/dqac016>.
- 143** S. Milanesi, F. Rosset, M. Colaneri, G. Giordano, K. Pesenti, F. Blanchini, P. Bolzern, P. Colaneri, P. Sacchi, G. De Nicolao, R. Bruno, "Early detection of variants of concern via funnel plots of regional reproduction numbers", *Scientific Reports*, (2023) 13:1052
- 142** D. Breda, D. Frizzera, G. Giordano, E. Seffin, V. Zanni, D. Annoscia, C. Topping, F. Blanchini, and F. Nazzi "A deeper understanding of system interactions can explain contradictory field results on pesticide impact on honey bees, *Nature Communications*, (2022)13:5720.
- 141** D. Palma, P. L. Montessoro, F. Blanchini, "A system-theoretic approach for image-based infectious plant disease severity estimation", *Plos ONE*, Volume 17, Issue 7 July 2022 Article number e0272002.
- 140** F. Blanchini, P. Colaneri, G. Giordano, I. Zorzan, "Vertex results for the robust analysis of uncertain biochemical systems, *Journal of Mathematical Biology*, volume 85, Article number: 35 (2022).
- 139** F. Blanchini, P. Bolzern, P. Colaneri, G. Giordano, "Optimal control of compartmental models: the exact solution, *Automatica*, Volume 147, January 2023, 110680.
- 138** F. Blanchini, D. Breda, G. Giordano, D. Liessi, "Michaelis-Menten Networks are Structurally Stable, *Automatica*, Volume 147, January 2023, 110683
- 137** I. Demori, G. Giordano, V. Mucci, S. Losacco, L. Marinelli, P. Massobrio, F. Blanchini, B. Burlando, "Thalamocortical Bistable Switch as a Theoretical Model of Fibromyalgia Pathogenesis Inferred from a Literature Survey", *Journal Computational Neuroscience*, July 2022.
- 136** F. Blanchini, C. A. Devia, G. Giordano, R. Pesenti, F. Rosset, "Fair and Sparse Solutions in Network-Decentralized Flow Control", *IEEE Control Systems Letters*, 2022, Vol.6, pp. 2984–2989, 2022.
- 135** F. Blanchini, G. Giordano, F. Riz, L. Zaccarian, "Solving nonlinear algebraic loops arising in input-saturated feedbacks" in *IEEE Transactions on Automatic Control*, early access.
- 134** F. Rosset, D. Casagrande, B. Jafarpisheh, P. L. Montessoro and F. Blanchini, "Optimal control approach to scheduling power supply facilities: theory and heuristics," in *IEEE Transactions on Control of Network Systems*, early access.
- 133** Dual Chemical Reaction Networks and Implications for Lyapunov-Based Structural Stability Blanchini, F., Giordano, G. *IEEE Control Systems Letters*, 2022, 6, pp. 488–493.
- 132** G. Giordano, M. Colaneri, A. Di Filippo, F. Blanchini, P. Bolzern, G. De Nicolao, P. Sacchi, P. Colaneri, R. Bruno, "Modeling vaccination rollouts, SARS-CoV-2 variants and the requirement for non-pharmaceutical interventions in Italy", *Nature Medicine*, 27, pages 993-998,2021.
- 131** B. Burlando, M. Milanesi, G. Giordano, T. Bonifacino, S. Ravera, F. Blanchini, G. Bonanno, "A multistationary loop model of ALS unveils critical molecular interactions involving mitochondria and glucose metabolism", *PLOS One*, December 17, 2020.



- 130 Blanchini, D. Casagrande, F. Fabiani, G. Giordano, D. Palma, R. Pesenti, “A threshold mechanism ensures minimum-path flow in lightning discharge“, *Scientific Reports*, 11:280, January 2021.
- 129 F. Blanchini, G. Giordano, “Structural analysis in biology: a control theoretic approach“, *Automatica*, 126, April 2021
- 128 G. Moretti, F. Blanchini, L. Zaccarian, “Quadratic constrained periodic optimisation for bandlimited linear systems via the Fourier-based method“, *ASME Journal on Measurement and Control*, to appear.
- 127 V. Mucci, I. Indovina, C. J. Browne, F. Blanchini, G. Giordano, L. Marinelli, B. Burlando, “Mal de Debarquement Syndrome: a matter of loops“, *Frontiers Neurology*, 11, 1387, 2020.
- 126 D. Palma, P. L. Montessoro, G. Giordano, F. Blanchini, “A Dynamic Biometric Authentication Algorithm for Near-Infrared Palm Vascular Patterns“, *IEEE Access*, Vol. 8, June 2020.
- 125 G. Giordano, F. Blanchini, R. Bruno, P. Colaneri, A. Di Filippo, A. Di Matteo, M. Colaneri, “Modelling the COVID-19 epidemic and implementation of population-wide interventions in Italy“, *Nature Medicine*, 26, 855–860 (2020).
- 124 F. Fabiani, G. Belgioioso, F. Blanchini, P. Colaneri, S. Grammatico, “Convergence in uncertain linear systems“, *Automatica*, Volume 119, September 2020.
- 123 S. Mariano, F. Blanchini, S. Formentin, L. Zaccarian, “Asymmetric state feedback for linear plants with asymmetric input saturation“, *IEEE Control Systems Letters*, pp. 608 - 613, April 2020 .
- 122 T. Rollo, F. Blanchini, G. Giordano, R. Specogna and D. Esseni, “Stabilization of negative capacitance in ferroelectric capacitors with and without a metal interlayer“, *Nanoscale*, April, 2020.
- 121 G. Giordano, M. Segata, F. Blanchini and R. Lo Cigno, “The joint network/control design of platooning algorithms can enforce guaranteed safety constraints“, *Ad Hoc Networks*, 94, pp. 101962, 2019.
- 120 B. Burlando, F. Blanchini and G. Giordano, “Loop analysis of blood pressure/volume homeostasis“, *PLOS Computational Biology*, 15(9): e1007346, 2019.
- 119 F. Blanchini, G. Chesi, P. Colaneri, G. Giordano, “Checking structural stability of BDC-decomposable systems via convex optimisation“, *IEEE Control Systems Letters*, 4(1), pp. 205-210, 2020.
- 118 C. Drioli, G. Giordano, D. Salvati, F. Blanchini, G. Foresti, “Acoustic Target Tracking Through a Cluster of Mobile Agents“, *IEEE Trans. on Cybernetics*, pp. 1–14, 19 April 2019 (Early Access).
- 117 F. Blanchini, D. Casagrande, F. Fabiani, G. Giordano, R. Pesenti, “Network-decentralised optimisation and control: an explicit saturated solution“, *Automatica*, 103(5):379-389, 2019.
- 116 F. Blanchini, G. Giordano, “BDC-decomposition for global influence analysis“, *IEEE Control Systems Letters*, 3(2): 260-265, April 2019.
- 115 G. Giordano, D. Bauso, F. Blanchini, A robust saturated strategy for n-player Prisoner’s dilemma, *SIAM Journal on Control and Optimization*, 56(5):3478-3498, January 2018.
- 114 Blanchini, C. Cuba Samaniego, E. Franco, G. Giordano, “Homogeneous time constants promote oscillations in negative feedback loops“, *ACS Synthetic Biology*, 7(6), pp. 1481-1487, 2018.
- 113 G. Belgioioso, F. Fabiani, F. Blanchini, S. Grammatico, “ On the convergence of discrete-time linear systems: A linear time-varying Mann iteration converges iff its operator is strictly pseudocontractive“, *IEEE Control Systems Letters*, 2(3):453-458, July 2018

- 112** S. Miani, M. Zilletti, P. Gardonio, F. Blanchini, P. Colaneri, Switching and sweeping vibration absorbers: theory and experimental validation, *Automatica*, 93, no. 12, pp. 290-301, 2018.
- 111** F. Blanchini, C. Cuba Samaniego, E. Franco, G. Giordano, “Aggregates of Monotonic Step Response systems: a structural classification“, *IEEE Transactions on Control of Network Systems - Special Issue on Approaches to Control Biological and Biologically Inspired Networks*, 5(2), pp. 782-792, 2018.
- 110** F. Blanchini, D. Casagrande, G. Giordano, U.Viaro, “A bounded complementary sensitivity function ensures topology-independent stability of homogeneous dynamical networks,” *IEEE Transactions on Automatic Control*, 63, no. 4, pp. 1140-1146, 2018.
- 109** David Palma, Pier Luca Montessoro , Giulia Giordano, and Franco Blanchini, “Biometric Palmprint Verification: a Dynamical System Approach”, *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, Vol 49, no. 12, pp. 2676–2687, 2019.
- 108** F. Blanchini, G. Giordano, “Polyhedral Lyapunov functions structurally ensure global asymptotic stability of dynamical networks iff the Jacobian is non-singular“, *Automatica*, 86, no. 12, pp. 183-191, 2017.
- 107** G. Giordano, F. Blanchini, “Flow-inducing networks“, *IEEE Control Systems Letters*, Vol. 1, no.1, July 2017.
- 106** F. Blanchini, D. Casagrande, G. Giordano, S. Miani, S. Oлару, V. Reppa, “Active fault isolation: a duality-based approach via convex programming“, *SIAM Journal on Control and Optimization*, 55(3), 1619–1640. 2017.
- 105** C. Cuba Samaniego, G. Giordano, F. Blanchini and E. Franco, “Stability analysis of an artificial biomolecular oscillator with non-cooperative regulatory interactions,“ *Journal of Biological Dynamics*, Vol. 11, no. 1, 2017.
- 104** F. Blanchini, G. Fenu, G. Giordano, F. A. Pellegrino, “Model-free plant tuning“, *IEEE Transactions on Automatic Control*, Vol. 62, no.6, June 2017.
- 103** F. Blanchini, G. Fenu, G. Giordano, F. A. Pellegrino, “A convex programming approach to the inverse kinematics problem for manipulators under constraints“, *European Journal of Control*, Vol. 33, Pages 11-23, 2017.
- 102** G. Giordano, F. Blanchini, E. Franco V. Mardanlou, P.L. Montessoro, “The Smallest Eigenvalue of the Generalized Laplacian Matrix, with Application to Network-Decentralized Estimation for Homogeneous Systems “, *IEEE Transactions on Network Science and Engineering*, Vol. 3, no. 4, pp. 312 – 324, Oct.-Dec. 2016.
- 101** M.T. Laraba, S. Oлару, S.I. Niculescum F. Blanchini, D. Casagrande, G. Giordano, S. Miani, “Guide on Set Invariance for Delay Difference Equations“, *Annual Reviews in Control*, vol. 41, 2016, pp 13–23.
- 100** F. Blanchini, D. Casagrande, G. Giordano, U.Viaro, “Robust Constrained Model Predictive Control of Fast Electromechanical Systems“, *Journal of the Franklin Institute*, vol. 353, no. 9, pp. 2087–2103, June 2016.
- 99** P. Colaneri, R. Middleton, F. Blanchini, “Optimal control of a class of positive Markovian bilinear systems“, *Nonlinear Analysis: Hybrid Systems*, vol. 21, Aug. 2016, pp. 155–170 .
- J98** C. Cuba Samaniego, G. Giordano, J. Kim, F. Blanchini, E. Franco, “Molecular titration promotes oscillations and bistability in minimal network models with monomeric regulators“, *ACS Synthetic Biology*, vol. 5, no. 4, pp. 321-333, 2016
- J97** F. Blanchini, D. Casagrande, G. Giordano, U.Viaro, “A switched system approach to dynamic race modelling“, *Nonlinear Analysis: Hybrid Systems*, vol. 21, no. 8, pp. 37-48, 2016.

- J96** F. Blanchini, D. Casagrande, G. Giordano, P.L. Montessoro, “A robust decentralized control for channel sharing communication“, *IEEE Transactions on Control of Network Systems*, 4(2), pp. 336-346, 2017.
- J95** F. Blanchini, P. Colaneri, M. E. Valcher, “Switched Linear Positive Systems“, *Foundations and Trends in Systems and Control*, vol. 2, no. 2, pp 101-273. 2016.
- J94** F. Blanchini, E. Franco, G. Giordano, V. Mardanlou, P.L. Montessoro, “Compartmental flow control: decentralization, robustness and optimality“, *Automatica*, vol. 64, no.2, 18–28 , February 2016
- J93** G. Giordano, C. Cuba Samaniego, E. Franco, F. Blanchini, “Computing the structural influence matrix for biological systems“, *Journal of Mathematical Biology*, June 2016, Volume 72, Issue 7, pp 1927–1958, June 2016,
- J92** F. Blanchini, P. Colaneri, Y. Fujisaki, S. Miani, F.A. Pellegrino, “A Youla–Kucera Parameterization Approach to Output Feedback Relatively Optimal Control”, *Systems and Control Letters*, vol. 81, pp. 14-23, 2015
- J91** F. Blanchini, E. Franco, G. Giordano, “A structural classification of candidate oscillatory and multistationary biochemical systems”, *Bulletin of Mathematical Biology*, Vol. 76, no. 10, pp. 2542-2569, 2014.
- J90** F. Blanchini, D. Casagrande, S. Miani and U. Viaro, “Stable LPV Realization of the Smith Predictor”, *International Journal of System Science*, *International Journal of System Science*, vol. 47, no. 10, 2016
- J89** F. Blanchini, E. Franco, G. Giordano, “Network-Decentralized Control Strategies for Stabilization”, *IEEE Transactions on Automatic Control*, Vol. 60, no. 2, 491-496, 2015.
- J88** F. Blanchini, D. Casagrande, S. Miani and U. Viaro, “Robust LPV control of induction motor”, *International Journal of Robust and Nonlinear Control*, *International Journal of Robust and Nonlinear Control*, vol. 25, no. 12, 1783-1800, 2015.
- J87** F. Blanchini, G. Giordano, “Piecewise-linear Lyapunov functions for structural stability of biochemical networks”, *Automatica*, Vol. 50, no. 10, pp. 2482-2494, 2014.
- J86** Colaneri, R. Middleton, Z. Chen, D. Caporale, F. Blanchini, “Convexity of the cost functional in an optimal control problem for a class of positive switched systems”, *Automatica*, Volume 40. no. 4, 1227-1234, 2014.
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