Curriculum Vitae

INFORMAZIONI PERSONALI

Nome   DARIO
Cognome   BAUSO
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FORMAZIONE TITOLI

2004 - Dottorato in Ingegneria dell'Automazione e dei Sistemi

2000 - Laurea in Ingegneria Aeronautica

ATTIVITA' DIDATTICA

Ricerca Operativa per Ingegneria Gestionale e Informatica 2004 -- 2016

RICERCHE FINANZIATE

Smart PORt Terminals -SPORT

PRIN 2016-2019

National Grant 251K EUR 2016/2019 Team Member

Robust Decisions in Markets and Organizations

PRIN 2010-2011

National Grant 404K EUR 2013/2016 Team Member

Decisional models for design and management of inter-operability logistic networks

PRIN 2007

National Grant 150K EUR 2007-2009 Team Member

Analysis, optimization, and coordination of logistic and production networks

PRIN 2005

National Grant 153K EUR 2005-2007 Team Member

F.R.A.S.I.: regional training network on service-oriented distributed platforms

PRIN 2007

Sicilian Regional Project 1.132K EUR 2007-2009 Team Member

ASSOCIAZIONI SCIENTIFICHE

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PUBBLICAZIONE

1. Books (authored)

[1] D. Bauso. Game Theory with Engineering Applications. SIAM's Advances in Design and

Control Series, 2016.

2. Papers in peer-reviewed international journals

[2] D. Bauso, H. Tembine, and T. Basar. "Opinion dynamics in social networks through mean

field games". Siam Journal on Control and Optimization, 54.6, pp. 3225–3257.

[3] D. Bauso, X. Zhang, and A. Papachristodoulou. "Density Flow in Dynamical Networks via

Mean-field Games". IEEE Transactions on Automatic Control, PP.99, 2016, pp. 1–1.

[4] D. Bauso and T. Basar. "Strategic thinking under social influence: scalability, stability and

robustness of allocations". European Journal of Control, in press,

[5] D. Bauso, Q. Zhu, and T. Basar. "Decomposition and mean–field approach to mixed integer optimal compensation problems". Journal of Optimization Theory and Applications, 169.2, 2016, pp. 606–630.

[6] D. Bauso, M. Tolotti, and R. Pesenti. "Opinion dynamics and stubbornness via multi-population mean-field games". Journal of Optimization Theory and Applications, 170.1, 2016, pp. 266–293.

[7] D. Bauso and H. Tembine. "Crowd-averse cyber-physical systems: the paradigm of robust mean field games". IEEE Transactions on Automatic Control, 61.8, 2016, pp. 2312–2317.

[8] D. Bauso, T. Mylvaganam, and A. Astolfi. "Crowd-averse robust mean-field games: approximation via state space extension". IEEE Transactions on Automatic Control, 61.7, 2016, pp. 1882–1894.

[9] D. Bauso, F. Bagagiolo, and R. Pesenti. "Mean-field game modeling the bandwagon effect with activation costs". Dynamic Games and Applications, Special Issue on Game Theoretic Analysis of Novel Network Technologies and Complex Systems, 6.4, 2016, pp. 456–476.

[10] D. Bauso, H. Tembine, and T. Basar. "Robust mean-field games". Dynamic Games and Applications, 6.3, 2016, pp. 277–300.

[11] D. Bauso and G. Notarstefano. "Distributed n-player approachability and consensus in network coalitional games". IEEE Transactions on Automatic Control, 60.11, 2015, pp. 3107–3132.

[12] D. Bauso. "Impulsively-controlled systems and reverse dwell time: a linear programming approach". Nonlinear Analysis: Hybrid Systems, 16, 2015, pp. 40–51.

[13] D. Bauso, E. Solan, E. Lehrer, and X. Venel. "Attainability in Repeated Games with Vector

Payoffs". INFORMS Mathematics of Operations Research, 40.3, 2015, pp. 739–755.

[14] D. Bauso. "Game Theory: Models, Numerical Methods, and Applications". A tutorial in

Foundations and Trends in Systems and Control, 1.4, 2014, pp. 379–523.

[15] D. Bauso, B. M. Dia, B. Djehiche, H. Tembine, and R. Tempone. "Mean Field Games for

Marriage". PLoS ONE, 9.5, 2014, e94933. doi:10.1371/journal.pone.0094933.

[16] F. Bagagiolo and D. Bauso. "Mean-field games and dynamic demand management in power

grids". Dynamic Games and Applications, 4.2, 2014, pp. 155–176.

[17] D. C. Tarraf and D. Bauso. "Robust Finite Alphabet Control of Dynamic Networks'". Systems

and Control Letters, 64, 2014, pp. 20–26.

[18] D. Bauso, F. Blanchini, L. Giarré, and R. Pesenti. "The linear saturated decentralized

strategy for constrained flow control is asymptotically optimal". Automatica, 49.7, July

2013, pp. 2206–2212.

[19] D. Bauso and R. Pesenti. "Mean field linear quadratic games with set up costs". Dynamic

Games and Applications, 3.1, March 2013, pp. 89–104.

[20] A. Nedic and D. Bauso. "Dynamic Coalitional TU Games: Distributed Bargaining among

Players' Neighbors". IEEE Transactions on Automatic Control, 58.6, June 2013,

pp. 1363–1376.

[21] D. Bauso and R. Pesenti. "Team theory and person-by-person optimization with binary

decisions". Siam Journal on Control and Optimization, 50.5, 2012, pp. 3011–3028.

[22] D. Bauso and J. Timmer. "On robustness and dynamics in (un)balanced coalitional games".

Automatica, 48.10, 2012, pp. 2592–2596.

[23] D. Bauso, L. Giarré, and R. Pesenti. "Quantized Dissensus in Networks of Agents subject to

Death and Duplication". IEEE Transactions on Automatic Control, PP.99, 2011, pp. 1–1.

[24] D. Bauso, L. Giarré, and R. Pesenti. "Robust control of uncertain multi-inventory systems

via linear matrix inequality". International Journal of Control, 83.8, 2010, pp. 1727–1740.

[25] F. Bagagiolo and D. Bauso. "Objective function design for robust optimality of linear

control under state-constraints and uncertainty". Esaim: Control, Optimisation and

Calculus of Variations, 17.01, 2011, pp. 155–177.

[26] D. Bauso, F. Blanchini, and R. Pesenti. "Optimization of Long-run Average-flow Cost in

Networks with time-varying unknown demand". IEEE Transactions on Automatic Control,

55.1, 2010, pp. 20–31.

[27] D. Bauso, F. Blanchini, and R. Pesenti. "Average flow constraints and stabilizability in

uncertain production-distribution systems". Journal of Optimization Theory and

Applications, 144.01, 2010, pp. 12–28.

[28] D. Bauso, L. Giarré, and R. Pesenti. "Consensus for switched networks with Unknown but

Bounded Disturbances". Siam Journal on Control and Optimization, 48.3, 2009,

pp. 1756–1770.

[29] D. Bauso. "Boolean-controlled systems via receding horizon and linear programming".

Journal of Mathematics of Control, Signals and Systems, 21.1, 2009, pp. 69–91.

[30] D. Bauso and J. Timmer. "Robust Dynamic Cooperative Games". International Journal of

Game Theory, 38.1, 2009, pp. 23–36.

[31] D. Bauso, L. Giarré, and R. Pesenti. "Consensus in Noncooperative Dynamic Games: a

Multi-Retailer Inventory Application". IEEE Transactions on Automatic Control, 53.4,

2008, pp. 998–1003.

[32] D. Bauso, L. Giarré, and R. Pesenti. "Distributed Consensus in Noncooperative Inventory

Games". European Journal of Operational Research, 192.3, 2009, pp. 866–878.

[33] D. Bauso, L. Giarré, and R. Pesenti. "Nonlinear Protocols for the Optimal Distributed

Consensus in Networks of Dynamic Agents". Systems and Control Letters, 55.11, 2006,

pp. 918–928.

[34] D. Bauso, F. Blanchini, and R. Pesenti. "Robust control policies for multi-inventory systems

with average flow constraints". Automatica, 42.8, 2006, pp. 1255–1266.

[35] L. Giarré, D. Bauso, P. Falugi, and B. Bamieh. "The Stall and Surge Control Problem for

Jet Engines: LPV Model Identification and Gain Scheduling Predictive Control". Control

Engineering Practice, 14.4, 2006, pp. 351–361.

3. Book chapters

[36] D. Bauso, L. Giarré, and R. Pesenti. "Dealing with uncertainty in consensus protocols". In:

A. Chiuso, L. Fortuna, M. Frasca, A. Rizzo, L. Schenato, and S. Zampieri (eds.), Modeling,

Estimation and Control of Networked Complex Systems, Heidelberg: Springer, 2009,

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[37] D. Bauso. "Optimal switches in multi-inventory systems". In: A. Bemporad, A. Bicchi, and

G. Buttazzo (eds.), Lecture Notes in Computer Science - Hybrid systems: computation and

control, Springer-Verlag, 2007, pp. 641–644.

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Zaccarian, and C. T. Abdallah (eds.), Current Trends in Nonlinear Systems and Control,

Birkhauser. Series: Systems, Control: Foundations, and Applications, 2005, pp. 475–494.

4. Proceedings of peer-reviewed international conferences

[39] G. Giordano, D. Bauso, and F. Blanchini. "A Saturated Strategy Robustly Ensures

Stability of the Cooperative Equilibrium for Prisoner's Dilemma". Proceedings of 55th IEEE

Conference on Decision and Control, 2016.

[40] M. Smyrnakis, D. Bauso, and S. Veres. "Stabilizability of Dynamic Coalitional Games with

Transferable Utility". Proceedings of 6th IFAC Workshop on Distributed Estimation and

Control in Networked Systems, 2016.

[41] M. Smyrnakis, D. Bauso, P. Trodden, and S. Veres. "Learning of Cooperative Behaviour in

Robot Populations". Proceedings of European Control Conference, 2016.

[42] D. Bauso, T. Mylvaganam, and A. Astolfi. "Transient stability of a power grid via robust

mean–field games". Proceedings of NetGCoop 2014, 2014.

[43] D. Bauso, X. Zhang, and A. Papachristodoulou. "Density Flow over Networks: A Mean-Field

Game Theoretic Approach". Proceedings of the 53rd IEEE Conf. on Decision and Control,

2014.

[44] T. Mylvaganam, D. Bauso, and A. Astolfi. "Mean–field games and two–point boundary value

problems". Proceedings of the 53rd IEEE Conf. on Decision and Control, 2014.

[45] D. Bauso and R. Pesenti. "Opinion dynamics, stubbornness and mean–field games".

Proceedings of the 53rd IEEE Conf. on Decision and Control, 2014.

[46] D. Bauso and T. Basar. "Opinion dynamics in coalitional games with transferable utilities".

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[47] D. Bauso and T. W. L. Norman. "Population games with vector payoff and

approachability". Lecture Notes in Computer Science, Springer Proceedings of the 11th

International Conference on Computational Management Science, 2014.

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mean-field crowd-averse game". Proceedings of the 19th IFAC World Congress, 2014.

[49] D. Bauso, T. Mylvaganam, and A. Astolfi. "Approximate solutions for crowd-averse robust

mean-field games". Proceedings of the 13th European Control Conference, 2014.

[50] D. Bauso, M. Cannon, and J. Fleming. "Robust consensus in social networks and coalitional

games". Proceedings of the 19th IFAC World Congress, 2014.

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payoffs". Proceedings of the 6th International Symposium on Communications, Control, and

Signal Processing (ISCCSP 2014), 2014, pp. 661–664.

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with transferable utilities". Proceedings of the 6th International Symposium on

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network flow problems". Proceedings of the 6th International Symposium on Communications,

Control, and Signal Processing (ISCCSP 2014), 2014, pp. 665–668.

[54] H. Tembine, D. Bauso, and T. Basar. "Robust linear quadratic mean-field games in crowdseeking

social networks". Proceedings of the 52nd IEEE Conf. on Decision and Control, 2013,

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[55] L. Stella, F. Bagagiolo, D. Bauso, and R. Pesenti. "Bandwagon effect in mean field games".

Proceedings of the 52nd IEEE Conf. on Decision and Control, 2013, pp. 1192–1197.

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through mean-field games". Proceedings of the 52nd IEEE Conf. on Decision and Control,

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[57] D. Bauso and T. Basar. "Large Networks of Dynamic Agents: Consensus under Adversarial

Disturbances". Proceedings of Asilomar Conference on Signals, Systems, and Computers,

2012.

[58] D. Bauso and G. Notarstefano. "Distributed n-player Approachability Via Time and Space

Average Consensus". Proceedings of the 3rd IFAC Workshop on Distributed Estimation and

Control in Networked Systems, 2012.

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Production of an Exhaustible Resource". Proceedings of the 7th IFAC Symposium on Robust

Control Design, 2012.

[60] D. Bauso, Q. Zhu, and T. Basar. "Mixed Integer Optimal Compensation: Decompositions

and Mean-Field Approximations". Proceedings of the American Control Conference, 2012.

[61] Q. Zhu, D. Bauso, and T. Basar. "Large population consensus in an adversarial environment".

Proceedings of the 8th ISDG Workshop, 2011.

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of NetGCoop 2011, 2011.

[63] D. Bauso and D. C. Tarraf. "Robust Control of Networks Under Discrete Disturbances and

Controls". Proceedings of NetGCoop 2011, 2011.

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notion of attainability". Proceedings of the NetGCoop 2011, 2011.

[65] D. Bauso and A. Nedic. "Constrained Consensus for Bargaining in Dynamic Coalitional TU

Games". Proceedings of the 50th IEEE Conf. on Decision and Control, 2011.

[66] D. Bauso and D. C. Tarraf. "Control of Production-Distribution Systems under Discrete

Disturbances and Control Actions". Proceedings of the 50th IEEE Conf. on Decision and

Control, 2011.

[67] D. Bauso and P. V. Reddy. "Robust Allocation Rules in Dynamical Cooperative TU Games".

Proceedings of the 49th IEEE Conf. on Decision and Control, 2010, pp. 1504–1509.

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Constrained Minimum Cost Flow". Proceedings of the 49th IEEE Conf. on Decision and

Control, 2010, pp. 661–666.

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cooperative TU Games". Proceedings of the 48th Allerton Conference, 2010, pp. 1165–1170.

[70] D. Bauso. "Optimal Impulse Control Problems and Linear Programming". Proceedings of the

48th IEEE Conf. on Decision and Control, 2009, pp. 5299–5304.

[71] D. Bauso, L. Giarré, and R. Pesenti. "Dissensus, death and division". Proceedings of the American Control Conference, 2009, pp. 2307–2312.

[72] F. Bagagiolo and D. Bauso. "Robust Optimality of Linear Saturated Control in Uncertain Linear Network Flows". Proceedings of the 47th IEEE Conf. on Decision and Control, 2008, pp. 3676–3681.

[73] D. Bauso, L. Giarré, and R. Pesenti. "Noncooperative Dynamic Games for Inventory Applications: A Consensus Approach". Proceedings of the 47th IEEE Conf. on Decision and Control, 2008, pp. 4819–4824.

[74] D. Bauso, L. Giarré, and R. Pesenti. "Robust Control of Uncertain Multi-inventory Systems and Consensus Problems". Proceedings of 17th IFAC World Congress, 2008.

[75] D. Bauso and R. Pesenti. "Generalized person-by-person optimization in team problems with binary decisions". Proceedings of American Control Conference, 2008, pp. 717–722.

[76] D. Bauso, L. Giarré, and R. Pesenti. "Robust Control of Uncertain Multi-inventory systems via Linear Matrix Inequality". Proceedings of American Control Conference, 2008, pp. 4081–4086.

[77] D. Bauso, L. Giarré, and R. Pesenti. "Challenging aspects in Consensus protocols for Networks". Proceedings of the 3rd International Symposium on Communications, Control and Signal Processing 2008, 2008, pp. 660–665.

[78] D. Bauso, L. Giarré, and R. Pesenti. "Lazy consensus for networks with unknown but bounded disturbances". Proceedings of the 46th IEEE Conference on Decision and Control, 2007, pp. 2283–2288.

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[80] D. Bauso, F. Blanchini, and R. Pesenti. "Average flow constraints and stabilizability in uncertain production-distribution systems". Proceedings of the American Control Conference, 2007, pp. 3624–3629.

[81] D. Bauso, L. Giarré, and R. Pesenti. "Distributed Consensus in Noncooperative Inventory Games". Proceedings of the 2nd International Workshop on Networked Control Systems: Tolerant to Faults, 2003.

[82] D. Bauso, L. Giarré, and R. Pesenti. "Mechanism Design for Optimal Consensu Problems". Proceedings of the 45th IEEE Conference on Decision and Control, 2006, pp. 3381–3386.

[83] D. Bauso and R. Pesenti. "A Polynomial Algorithm solving a Special Class of Hybrid Optimal Control Problems". Proceedings of the IEEE Conference on Control Applications, 2006, pp. 349–354.

[84] D. Bauso, F. Blanchini, and R. Pesenti. "Robust control strategies for multi-inventory systems with average flow constraints". Proceedings of the 2nd IFAC Conference on Analysis and Design of Hybrid Systems, 2006.

[85] D. Bauso, L. Giarré, and R. Pesenti. "Distributed consensus in Networks of Dynamic Agents". Proceedings of the 44th IEEE Conference on Decision and Control, 2005, pp. 7054–7059.

[86] D. Bauso, L. Giarré, and R. Pesenti. "Existence and Optimality of Nash Equilibria in Inventory Games". Proceedings of the 16th IFAC World Congress, 2005.

[87] D. Bauso, D. D. Bernardo, L. Giarré, and G. Neglia. "AQM Generalized Nyquist Stability in

Multiple Bottleneck Networks". Proceedings of the 16th IFAC World Congress, 2005.

[88] D. Bauso, L. Giarré, and R. Pesenti. "Multiple UAV Cooperative Path Planning via Neuro-

Dynamic Programming". Proceedings of the 43rd IEEE Conference on Decision and Control,

2004, pp. 1087–1092.

[89] D. Bauso, L. Giarré, and G. Neglia. "Active Queue Management Stability in Multiple

Bottleneck Networks". Proceedings of the First International Symposium on Control,

Communications and Signal Processing, 2004, pp. 369–372.

[90] D. Bauso, L. Giarré, and R. Pesenti. "Neuro-Dynamic Programming for Cooperative

Inventory Control". Proceedings of the IEEE American Control Conference, 2004,

pp. 5527–5532.

[91] D. Bauso, L. Giarré, and G. Neglia. "AQM Stability in Multiple Bottleneck Networks".

Proceedings of the IEEE International Conference on Communication, 2004, pp. 2267–2271.

[92] D. Bauso, L. Giarré, and G. Neglia. "About the Stability of Active Queue Management

mechanisms". Proceedings of the IEEE American Control Conference, 2004, pp. 2954–2959.

[93] D. Bauso, L. Giarré, and R. Pesenti. "Distributed Consensus Protocols for Coordinating

Buyers". Proceedings of the 42nd IEEE Conference on Decision and Control, 2003,

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[94] D. Bauso, L. Giarré, and R. Pesenti. "Attitude Alignment for a Team of UAVs under

decentralized Information Structure". Proceedings of the IEEE Conference on Control

Applications, 2003, pp. 486–491.

[95] D. Bauso, L. Giarré, and R. Pesenti. "Cooperative Inventory Control". Proceedings of

Odysseus 2003, 2nd International Workshop on Freight Transportation and Logistics, 2003.

[96] F. Alonge, H.-J. Barth, and D. Bauso. "Adaptive-Robust Control of Pneumatic Flow Control

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[97] B. Bamieh, L. Giarré, T. Raimondi, D. Bauso, M. Lodato, and D.Rosa. "LPV Model

Identification of the Stall and Surge Control for Jet Engine". Proceedings of the 15th IFAC

Symposium on Automatic Control in Aerospace, 2001.

6. Ph.D. thesis

[98] D. Bauso. "Cooperative Control and Optimization: a Neuro-Dynamic Programming

Approach". PhD thesis. Univ. of Palermo, 2003.

ATTIVITA' SCIENTIFICHE

IFAC Automatica Associate Editor 2015–today

IEEE Transactions on Automatic Control Associate Editor 2012–today

J. of Dynamic Games & Applications Associate Editor 2010–today

IEEE Control System Society Conf. Ed. Board member 2010–today

55th IEEE Conference on Decision and Control Technical Committee member 2016

6th IFAC Workshop on Distributed Estimation and Control in Networked Systems Technical Committee member 2016

2015-2016 Int. Conf. on Network Games, Control and Optimization (Netgcoop) 2014 Technical Committee member 2014

17th Int. Symp. on Dyn. Games and Appl. Technical Committee member 2014

Mediterranean Control Conference Local Committee member 2014

European Control Conference Technical Committee member 2014

IEEE Conf. Decision and Control Technical Committee member 2013

Delft University Ph.D. committee member 2013

Tilburg University Ph.D. committee member 2011

Spain, Italy, Netherlands meeting on Game Th. Representative for Italy 2010–2011

GNAMPA, Italian Assoc. of Mathematics,

Control and Optimization group

Associate member 2008–

SIDRA, Italian Assoc. of Automatic Control Associate member 2005–

AIRO, Italian Assoc. of Operational Research Associate member 2005–

AMBITI DI RICERCA

Distributed control and optimization, Multi-agent systems, Game Theory