Mauro Franceschelli

Associate Professor

Dept. Electrical and Electronic Engineering
Università degli Studi di Cagliari, Italy

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https://sites.google.com/site/conetdomesys/

- ***Research interests***

  Cooperative distributed control (coordination, optimization, learning, estimation, consensus) of multi-agent systems and networks, resilient networks, nonsmooth analysis, monotone systems, with applications to multi-robot systems, distributed electric demand side management and response, federated and distributed learning.

- **Academic indicators 10/11/2026:**

  Journal papers: 46
  Total papers: 114
  Citations: 2594 (Google Scholar) 1951 (Scopus)
  H-index: 29 (Google Scholar) 24 (scopus)
  i10 Index: 68 (Google Scholar)
  Patents: 1

- ***Education***

March 2011 **Ph.D.**, Dept. of Electrical and Electronic Engineering, University of Cagliari, Italy.
Thesis: *"Consensus Algorithms for Estimation and Discrete Averaging in Networked Control Systems"*. Advisor: Prof. A. Giua.

July 2007 **Master degree** in Electronic Engineering, University of Cagliari, Italy.
Honors: 110/110 *Summa Cum Laude*.

Oct 2005 **Bachelor degree** in Electronic Engineering**,** University of Cagliari, Italy.
Honors: 110/110 *Summa Cum Laude*.

- ***Academic positions***

July 2022-today ***Associate professor*** at the Dept. of Electrical and Electronic Engineering (DIEE), University of Cagliari, Italy

2019-2022 ***Senior assistant professor (RTDB)*** (3 years tenure track position) at the Department of Electrical and Electronic Engineering (DIEE), University of Cagliari, Italy

2015-2019 **Assistant professor** (RTDA), position financed by the Italian Ministry of Eduction, University and Research (MIUR) under the 2014 program **"Scientific Independence of Young Researchers" (SIR).** Host institution: University of Cagliari.

2013-2015 **Postdoctoral fellow** at the Department of Electrical and Electronic Engineering, University of Cagliari

2011-2013 **Contract researcher** on European FP7-ICT project "HYCON2" (GA n. 257462), 2010-2014, "Highly-complex and networked control systems"

- ***Visiting positions/periods***

Oct 2018 **Visiting researcher,** GIPSA-lab, CNRS, Grenoble, France (with Prof. Paolo Frasca, one week)

Nov 2014 **Visiting researcher,** Xidian University, *School of Electro-Mechanical Engineering*, Xi'an, China. (with Prof. Zhiwu Li, visit funded by the Research Fellowship for International Young Scientists)

Oct-Dec 2010 **Visiting student,** University of California at Santa Barbara, *Center for Control, Dynamical Systems, and Computation, Santa Barbara*, CA, US. (with Prof. Francesco Bullo).

Oct-Dec 2009 **Visiting student**, Georgia Institute of Technology, *GRITS LAB*, Atlanta, GA, US. (with Prof. Magnus Egerstedt)

Sep 2008 **Visiting student,** Universidad de Zaragoza, *Depto. de Informatica e Ingenieria de Sistemas*, Zaragoza, Spain. (with Prof. Cristian Mahulea)

Aug 2007 **Visiting student,** Royal Institute of Technology, *Dept. of Computer Engineering*, Stockholm, Sweden. (with Prof. Magnus Egerstedt)

- ***Awards and fellowships***

2023 *As officer (secretary) of the IEEE CSS Italy chapter (sine 2022), chaired by Fabrizio Dabbene, won the "2023 Outstanding Chapter award", awarded at IEEE CDC, Dec 2023, Singapore.*

2023 The e-Mago Startup project of the University of Cagliari (Team: Michela Melis, Diego Deplano, Mauro Franceschelli) wins the Special Mention from the Italian Alliance for Sustainable Development (ASviS) at the twenty-first edition of the National Innovation Prize (PNI) 2023 for the best startup projects that implement solutions oriented towards sustainable development goals, awarded to e-Mago (StartCup Sardegna)."

2022 Advisor and co-author of the paper by Diego Deplano, Mauro Franceschelli, Alessandro Giua "Dynamic max-consensus with local self-tuning", finalist for the young paper award at IFAC Conference on Networked Systems (NECSYS 2022), 5-7 July, Zurich, Swistzerland. Young author: Diego Deplano

2021 Finalist at the Italian "Intellectual Property Award" (IPA 2021) with "Method and architecture for managing the energy demand of the multi-agent type for reducing the peaks of electrical consumption of a plurality of electrical appliances" Inventors: Franceschelli Mauro, Pisano Alessandro, Pilloni, Alessandro, Gasparri Andrea. Reference number 102018000006385, date 15/06/2018. Category: Renewable energy /alternative energy

2015 Prize (10k Euros) by the regional government "Regione Autonoma della Sardegna" (RAS) for the financing of research projects in highly competitive national and european calls, with project "CoNetDomeSys" (call SIR 2014 financed by MIUR)

2014 Best Session Presentation Award, American Control Conference

2013 *Research Fellowship for International Young Scientists*

Awarded by: National Natural Science Fundation of China (NSFC) on 30/06/2014
Category: International (Regional) Cooperation and Exchange Projects
Program: Research Fund for International Young Scientists

2012 Diploma supplement of doctoral studies: ICO-NEH International Curriculum Option of Doctoral Studies in Networked, Embedded, and Hybrid Control Systems for Complex, Distributed and Heterogeneous Systems. Pisa, Italy.

2013-2015 University of Cagliari Postdoctoral Fellowship

2010 Best P.h.D student, DRIEI P.h.D. School of Electronics and Computer Science, Dept. of Electrical and Electronic Engineering, University of Cagliari, XXIII cycle.

2009 Best Session Presentation Award, American Control Conference

2008-2010 MIUR (Italian Ministry of Education and research) Graduate Fellowship

- ***Research projects***

2026-2028 "ICARUS" PR FESR SARDEGNA 2021-2027, Azione: 1.1.1. – Bando "Aiuti ai progetti di ricerca e sviluppo delle MPMI". Impresa proponente: Nurjana Technologies Srl. Role: Role: ***Principal Investigator*** *for UNICA.*

2026-2028 "ROSAS- RObotica general purpose as-a-Service per l'Agroindustria Sarda" (PIC_25-108). Bando regionale di Sardegna Ricerche, "Aiuti per progetti di collaborazione per l'innovazione" Obiettivo specifico Os1.i): Sviluppare e rafforzare le capacità di ricerca e di innovazione e l'introduzione di tecnologie avanzate - Azione: 1.1.2. Duration: 30 months. 600k. Role: ***Principal Investigator.***

2026-2027- Research project (Regional): "Formal methods for Resiliency and Security in Networks of Systems (ReSNetS)" Progetti biennali FdS - Bando Starts 2025. Duration: 24 months. Role: ***Principal Investigator.***

2025-2027 "AISTech – Artificial Intelligence for Smart Technologies" Progetti biennali FdS 2023. Duration: 24 months. Role: member of research group.

2025-2027 Research project (National): "Tecnologie dell'Industria 4.0 e ICT per l'Efficientamento e Ottimizzazione delle Produzioni Agro-alimentari tipiche mediante la valorizzazione delle condizioni Climatiche locali" (EOPAC) Duration: 36 months. Member of Scientific Steering Committee. Head of the research unit of automation and control IINF-04

2024-2027 Research project (National): "Tecnologie ICT e dell'Industria 4.0 per l'analisi e l'ingegnerizzazione di Sistemi alimentari complessi per la produzione di pani artigianali locali ad alto valore aggiunto " , (AISAC). Duration: 36 months. Programma di ricerca e sviluppo: "Accordi per l'innovazione" a valere sulle risorse del Piano nazionale per gli investimenti complementari al PNRR. Head of the research unit of automation and control IINF-04. Role: WP leader of OR10. Member of Scientific Steering Committee.

2022-2023 Research project funded by private company DEDEM s.r.l. "Development of multi-agent coordination and optimization methods and algorithms for workforce management through task assignement and routing". "Sviluppo di metodi ed algoritmi di coordinamento e ottimizzazione multi-agente per la gestione della forza lavoro tramite assegnamento di compiti e instradamento". 50k euros. Role: ***Principal investigator.***

2020-2022 *Regional project (Sardegna): "Formal Methods and Technologies for the Future of Energy Systems", Progetti biennali finanziati dalla Fondazione di Sardegna - Esercizio finanziario 2019. Role:* ***Principal investigator.***

2019-2022 *Research and development program: Fondo per la Crescita Sostenibile "AGRIFOOD" PON I&C 2014-2020, IOT (IAPC) "Ingegnerizzazione e Automazione del Processo di produzione tradizionale del pane Carasau mediante l'utilizzo di tecnologie IOT ", 36 mesi, 02/10/2019-02/10/2022. Role: WP leader of OR3., head of the research unit on Automation and control IINF-04.*

2019-2021 *Regional project FSC 2014-2020 Regione Autonoma della Sardegna, call "RICERCA DI BASE 2017": "Metodi formali per il MOnitoraggio di SIstemi dinamici Multi-Agente (MOSIMA)". Code RASSR05871. Member of the research unit.*

2018-2020 *Regional project POR FESR Sardegna 2014 – 2020, call "AIUTI PER PROGETTI DI RICERCA E SVILUPPO". Project UNICARASAU: "Optimization of the production process of Carasau bread for the increment of the automation level and productivity of the enterprise". Head of the research Unit of Automation and control IINF-04.*

2017-2020 *Regional project POR Sardegna FESR 2014-2020, call "Cluster top-down", project VIRTUALENERGY: "Development of systems for the aggregation, coordination and optimization of Virtual Power Plants". Head of the research unit and reference person for control systems research group.*

2015-2019 National project CoNetDomeSys "Cooperative constrained optimization of networked domestic thermal systems for efficient and coordinated urban energy consumption". 360k Euros, Awarded by: MIUR, under call S.I.R 2014 (Scientific Independence of young researchers), code: RBSI14OF6H. **Principal Investigator.**

2013- 2016 European Artemis JU project, ACCUS (GA n. 333020), "Adaptive cooperative control of urban systems"). **Deputy of scientific responsible** for University of Cagliari.

2013-2015 Regional project, under call PIA Industria G.R. N° 39/3 DEL 10.11.2010 **, project** "Giedieon": "Gestione Intelligente e sicura di sEnsoristica Distribuita e della sua lnterazione uOmo-macchiNa: possibili scenari futuri". Member of the research unit.

2012-2015 Regional project L7/2007, call 2010 "SIAR": "Sistemi interconnessi per l'automazione su reti" (Control of Networked Systems). Member of the research unit.

2010-2014 European FP7-ICT project "HYCON2" (GA n. 257462) "Highly-complex and networked control systems". Contract researcher.

2008-2011 European FP7 project DISC (GA n. 224498),"Distributed Supervisory Control of Large Plants". Member of research unit.

2007-2008 Regional project POR Sardegna, call Misura 3.13 "DiagDis": Sviluppo di uno strumento di diagnosi per l'analisi di guasto in sistemi distribuiti" (Development of diagnosys tools for avionic systems). Member of the research unit.

- ***Patents***

2018 Patent (Italy): "Metodo ed architettura di gestione della domanda energetica di tipo multi-agente per la riduzione dei picchi di consumo elettrico di una pluralità di apparecchiature

elettriche" Inventors: **Franceschelli Mauro**, Pisano Alessandro, Pilloni, Alessandro, Gasparri Andrea. Reference number 102018000006385, date 15/06/2018.

- ***Invited Talks and Seminars***

Dec 2016 **Invited speaker** at the workshop: TAXONOMIES OF INTERCONNECTED SYSTEMS: LARGE-SCALE NETWORKS. Organizers: A. Gasparri, Ryan K. Williams, B. Sinopoli, 55th IEEE Conference on Decision and Control, December 12-14, 2016, Las Vegas, NV, USA.

Nov 2015 "A gossip based distributed approach for Heterogeneous Multi-Vehicle Routing Problems" Politecnico di Bari,Bari, Italy. Hosted by Prof. N. G. Dotoli.

Nov 2015 "A gossip based distributed approach for Heterogeneous Multi-Vehicle Routing Problems" Università del Salento, Lecce, Italy. Hosted by Prof. G. Notarstefano.

Sept 2015 **Invited speaker** "Cooperative constrained optimization of networked domestic thermal systems for efficient and coordinated urban energy consumption". Talk invited by the Italian Society of professor and Researchers in Automatic control, Automatica.it, Bari, 2015**.**

Nov 2014 "Introduction to the Discrete Consensus Problem and Gossip Based Algorithms for Distributed Task Assignment in Multi Agent Systems". Xidian University, Xi'an, China. Hosted by Prof. Z.W. Li.

March 2013 "Discrete Consensus for gossip-based distributed load balancing" Institut national de recherche en informatique et en automatique (INRIA), Grenoble, France. Hosted by Prof. C. Canudas-de-Wit.

Jan 2013 "Discrete and Quantized Consensus for Gossip-Based Distributed Load Balancing" Politecnico di Bari, Italy. Hosted by Prof. M.P.Fanti.

Nov 2010 "Decentralized Laplacian spectrum estimation" University of California of Santa Barbara, Santa Barbara, CA, USA. Student talk. Hosted by Prof. F. Bullo.

- ***Institutional duties***

- Secretary for the master degree LM32 "Computer Engineering for Artificial Intelligence and CyberSecurity", dal 2018, Università degli Studi di Cagliari.
- Quality Assurance reference person (Referente per la qualità) for the master degree LM32 "Computer Engineering for Artificial Intelligence and CyberSecurity", dal 2024, Università degli Studi di Cagliari.
- He is Tutor (Docente tutor) for the master degree "Computer Engineering for Artificial Intelligence and CyberSecurity", dal 2018, Università degli Studi di Cagliari.
- Member of "Commissione di Internazionalizzazione" del Dipartimento di ingegneria elettrica ed elettronica in qualità di referente per il corso di laurea triennale in Ingegneria dell'Energia Elettrica per lo Sviluppo Sostenibile, dal 2024, Università degli Studi di Cagliari.
- Eramsus reference person for the bachelor degree in "Ingegneria dell'Energia Elettrica per lo Sviluppo Sostenibile", since 2024, Università degli Studi di Cagliari.
- Member of Comitato di Gestione Dipartimento di Eccellenza (Dipartimento di Ingegneria Elettrica ed Elettronica, Dipartimento di Eccellenza 2023-2027).
- Member of Commissione Pratiche Studenti per il corso di laurea magistrale LM32 "Computer Engineering for Artificial Intelligence and CyberSecurity", dal 2021, Università degli Studi di Cagliari.
- Member of Commissione CAV per laurea magistrale "Computer Engineering for Artificial Intelligence and CyberSecurity", dal 2018 Università degli Studi di Cagliari.

- Member of collegio di dottorato “PhD Scholl in Information Engineering” DRIEI, Dipartimento di ingegneria elettrica ed elettronica, dal 2020, Università di Cagliari
- Member of collegio di dottorato nazionale “DAUSY”, National PHD program in AUtonomous SYstems, dal 2023.

- ***Professional activities***

Editorial activity

Journals:

Associate Editor for the IEEE Transactions on Automatic Control since 2025.
Guest Associate Editor for the “Special Section: Resilient and Safe Control in Multi-Agent Systems” of the IEEE Open Journal of Control Systems (OJ-CSYS), 2024.
Associate Editor for IFAC Nonlinear Analysis: Hybrid Systems since 2023.
Associate Editor for the IEEE Transactions on Automation Science and Engineering 2021-2022-2023.

Conferences:

Publication chair of 18th IEEE International Conference on Emerging Technologies & Factory Automation, (ETFA) 2013.
Publication chair of IEEE 20th International Conference on Automation Science and Engineering *August 28 – September 1, 2024, Bari, Italy.*

Member of the local organizing committee with functions of program chair for Automatica.it 2020 Virtual Edition, 9-11 September, Cagliari, Italy.

Associate editor for IEEE International Conference on Automation Science and Engineering (IEEE CASE since 2015).
Member of the Conference Editorial Board of IEEE Control System Society (since 2019)
Associate editor for IEEE American Control Conference (IEEE ACC since 2020).
Associate editor for IEEE Conference on Decision and Control (IEEE CDC since 2020).
Associate editor for IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC since 2025)

Participation in technical committees

Member of the IEEE RAS Technical Committee on Multi-Robot Systems (MRS).
Member di IEEE RAS Steering Committee on Multi-Robot Systems (MRS).
Member of the IEEE CSS Technical Committee on Networks and communications
Member of Track Program Committee of IEEE ETFA 2015,2016.
Member of the Int. program committe of ICINCO 2013,2014,2015,2016,2018.

Technical reviewer for

IEEE Transactions on Automatic Control; Automatica; IEEE Transactions on Control of Network systems; IEEE Transactions on Robotics; IEEE Control Systems Letters; IEEE Transactions on Automation Science and Engineering; IEEE Transactions on Cybernetics; Springer; IEEE Transactions on Control Systems technologies; Systems and Control Letters;

IEEE Transactions on Automation Science and Engineering, Int. Journal of Control; Int. Journal of Robust Control.

Membership and volunteer positions in scientific societies

2025 – today Officer (vice-Chair) for the IEEE Italy Section Chapter of the IEEE Control Systems Society
2023 – 2024 Officer (Secretary) for the IEEE Italy Section Chapter of the IEEE Control Systems Society
2021 – today Senior Member of IEEE
2014 – today Member IEEE RAS
2012 – today Member of IEEE CSS
2011 – today Member of IEEE

- ***National evaluations for access to academic positions***

  2023 **Italian national qualification for access to a position of *full professor*** *(professore di I fascia)*, disciplinary sector ING-INF/04, Automatica, in 06/02/2023, valid from 06/02/2023 to 06/02/2035 (art. 16, comma 1, Legge 240/10).

  2017 **Italian national qualification for access to a position of associate professor** (professore di II fascia), disciplinary sector ING-INF/04, Automatica, with validity from 07/04/2017 to 07/04/2023 (art. 16, comma 1, Legge 240/10)

  2014 **French national qualification for access to a position of maître de conferences** (assistant professor). Section 61: *Génie informatique, automatique et traitement du signal***.** Date: 24/01/2014, num. 14261263531.

- ***Supervision of postdocs at University of Cagliari***

  2024-today Diego Deplano, RTD-A , Advisor: M. Franceschelli

  2020-2023 Diego Deplano, postdoc , Advisor: M. Franceschelli

  2020-2022 Mojtaba Kaheni, postdoc, Advisor: M. Franceschelli.

  2018-2019 Alessandro Pilloni, postdoc (one year), Advisor: M. Franceschelli

  2017-2018 Alessandro Pilloni, postdoc (one year), Advisor: M. Franceschelli

- ***Supervision of PhD students at University of Cagliari***

  2024- today Marco Ledda, PhD student, Advisors: M. Franceschelli, A. Giua

  2022- today Wenjie Zhao, PhD student, Advisors: M. Franceschelli, A. Giua

  2018 -2022 *Zohreh Sanai,* PhD student, Advisors: C. Seatzu and M. Franceschelli.

  2017 -2020 Diego Deplano, PhD student, Advisors: A. Giua and M. Franceschelli.

  2012-2015 Mehran Zareh Eshghdoust, PhD student, Advisors: C. Seatzu and M. Franceschelli.

  2011-2014 Daniele Rosa, PhD student. Advisors: A. Giua and M. Franceschelli.

Co-supervision of PhD students with the Unviersity of RomaTRE

2025- today Andrea Miele, PhD student, Advisors: Andrea Gasparri, Mauro Franceschelli

- ***Supervision of undergraduate/graduate students with research scholarship***

2026-2027 Xintong Ni
2026 Essil Amaimi
2025 -2026 Meng Tao
2024-2026 Nicola Arridu
2024-2025 Marco Ledda
2024 Nicola Deidda
2023-2024 Gabirele Poddighe
2022-2023 Michela Melis
2021-2022 Claudia Congiu
2019-2020 Simone Zanda

- ***Teaching at National (Italian) PhD Summer Schools***

2026 Mauro Franceschelli and Diego Deplano "Introduction to Open Multi-Agent Systems", July 13 - July 18, 2026, Bertinoro, Italy, organized by Società Italiana dei Docenti e Ricercatori in Automatica (SIDRA) School coordinators: Prof. Claudio Melchiorri and Prof. Maria Elena Valcher, website: https://sidra2026.dei.unibo.it/

- ***Teaching***

2023-today Lecturer *of the course "Fondamenti di Automatica" Laurea Triennale in Ingegneria per l'Energia elettrica e lo sviluppo sostenibile",* L9, Università di Cagliari. 30 out of 90 hours of frontal lectures, 9 CFU. Start in October 2023, first semester, second year. Teaching language: Italian;

2020-today Lecturer of the course "Networked Control Systems and Security" Laurea magistrale in Computer Engineering, Artificial Intelligence and Cybersecurity, LM32, Università of Cagliari. 50 hours of frontal lectures, 5 CFU, Start 03/03/2021, second semester, second year. Teaching language: English;

2018-today **Lecturer** of the course "Fault Diagnosis and Estimation in Dynamical Systems", Master degree Computer Engineering, Artificial Intelligence and Cybersecurity, University of Cagliari. 50h of frontal lectures. Teaching language: English.

2016-2018 **Lecturer** of the course "Control of Network Systems", Master degree in Electronics Engineering, University of Cagliari. 60h of frontal lectures. Teaching language: English.

2015-2016 **Lecturer** of the course "Controllo di Sistemi Multi-Agente", Master degree in Electronics Engineering, University of Cagliari. 40h of frontal lectures. Teaching language: Italian.

2009 **Teaching assistant** of the course "Tecnologie dei Sistemi di Controllo". Lecturer: Prof. S. Malan. Distance learning Bachelor degree in Mechatronics Engineering, Polytechnic of Turin, held in Oristano, Italy. 30h of frontal lectures and teaching support. Teaching language: Italian.

2008 **Teaching assistant** of the course "Analisi dei Sistemi". Lecturer: Prof. A. Giua. Bachelor degree in Electroncis Engineering, University of Cagliari, italy. 50h of teaching support. Teaching language: Italian.

2007 **Teaching assistant** of the course “Controlli Automatici”. Lecturer: Prof. E. Usai. Bachelor degree in Electroncis Engineering, University of Cagliari. 50h of teaching support. Teaching language: Italian.

Institutional duties at Unviersity of Cagliari

- Secretary for the master degree LM32 “Computer Engineering for Artificial Intelligence and CyberSecurity”, dal 2018, Università degli Studi di Cagliari.
- Quality Assurance reference person (Referente per la qualità) for the master degree LM32 “Computer Engineering for Artificial Intelligence and CyberSecurity”, dal 2024, Università degli Studi di Cagliari.
- He is Tutor (Docente tutor) for the master degree “Computer Engineering for Artificial Intelligence and CyberSecurity”, dal 2018, Università degli Studi di Cagliari.
- Member of "Commissione di Internazionalizzazione" del Dipartimento di ingegneria elettrica ed elettronica in qualità di referente per il corso di laurea triennale in Ingegneria dell’Energia Elettrica per lo Sviluppo Sostenibile, dal 2024, Università degli Studi di Cagliari.
- Referente Eramsus per il corso di laurea triennale in Ingegneria dell’Energia Elettrica per lo Sviluppo Sostenibile, dal 2024, Università degli Studi di Cagliari.
- Member of Comitato di Gestione Dipartimento di Eccellenza (Dipartimento di Ingegneria Elettrica ed Elettronica, Dipartimento di Eccellenza 2023-2027).
- Member of Commissione Pratiche Studenti per il corso di laurea magistrale LM32 “Computer Engineering for Artificial Intelligence and CyberSecurity”, dal 2021, Università degli Studi di Cagliari.
- Member of Commissione CAV per laurea magistrale “Computer Engineering for Artificial Intelligence and CyberSecurity”, dal 2018 Università degli Studi di Cagliari.
- Member of collegio di dottorato “PhD Scholl in Information Engineering” DRIEI, Dipartimento di ingegneria elettrica ed elettronica, dal 2020, Università di Cagliari
- Member of collegio di dottorato nazionale “DAUSY”, National PHD program in AUtonomous SYstems, dal 2023.

List of papers

<u>Journal papers</u>

J50 Marco Ledda, Diego Deplano, Alessandro Giua, Mauro Franceschelli, ResDyNet: a Residual State-Space Neural Network for Nonlinear System Identification" IEEE Open Journal on Control, under review.

J49. Meng Tao, Mauro Franceschelli, Yiheng Wei, Jinde Cao "Distributed Optimization in Open Multi-Agent Systems with Directed Unbalanced Graphs", IEEE Transactions on Automatic Control, under review.

J48. Diego Deplano, Sergio Grammatico, Mauro Franceschelli "Non-Euclidean Enriched Contraction Theory for Monotone Operators and Monotone Dynamical Systems", IEEE Transactions on Automatic Control, under review.

J47. Wenjie Zhao, Diego Deplano, Zhiwu Li, Alessandro Giua, Mauro Franceschelli, "Algebraic Connectivity Control and Maintenance with Application to Open Multi-Agent Networks", Automatica, to appear.

J46. Diego Deplano, Carla Seatzu, Mauro Franceschelli, "A Real-Time Heuristic for Large-Scale Workforce Task Assignment, Multi-Vehicle Routing, and Scheduling With Time-Dependent Profits", IEEE Transactions on Automation Science and Engineering, vol. 23, pp. 16022–16037, 2026. DOI: 10.1109/TASE.2026.3730532.

J45. Diego Deplano, Nicola Bastianello, Mauro Franceschelli, Karl H. Johansson, Composite Optimization in Open Multi-Agent Systems under Additive Errors" in *IEEE Control Systems Letters*, 2026 DOI: 10.1109/LCSYS.2026.3701867.

J44. A. Miele, M. Lippi, D. Deplano, M. Franceschelli and A. Gasparri, "Distributed Potential-Based Coordination within Open Multi-Agent Systems," in *IEEE Control Systems Letters*, 2026 doi: 10.1109/LCSYS.2026.3701031.

J43. Diego Deplano, Nicola Arridu, Carla Seatzu, Mauro Franceschelli, "Thermal modeling of thin-layer bread via neural networks: Experimental validation in a Sardinian bakery" Control Engineering Practice, Volume 174, 2026, 107014, ISSN 0967-0661. https://doi.org/10.1016/j.conengprac.2026.107014.

J42. Diego Deplano, Nicola Bastianello, Mauro Franceschelli, Karl H. Johansson "Optimization and Learning in Open Multi-Agent Systems", IEEE Transactions on Automatic Control, Jan 2026, DOI: 10.1109/TAC.2026.3653296 .

J41. Diego Deplano, Mauro Franceschelli, Alessandro Giua, "Distributed Tracking of Network Size, Diameter, Radius, and Node Eccentricities in Open Multi-Agent Systems" IEEE Transactions on Automatic Control, 2026, vol. 71, no. 4, pp. 2274–2288. DOI: 10.1109/TAC.2025.3621993

J40. Nicola Arridu, Martina Lippi, Mauro Franceschelli, Andrea Gasparri "On Ensemble Learning Models for Autoencoder-Based Identification of Nonlinear Dynamical Systems", IEEE ACCESS, 2025

J39. Andrea Miele, Mauro Franceschelli, Andrea Gasparri, "Gossip-Based Estimation of Centroid and Common Reference Frame in Open Multi-Agent Systems", IEEE Control Systems Letters, vol. 9, pp. 823–828, 2025. DOI: 10.1109/LCSYS.2025.3578269.

J38. Nicola Bastianello, Diego Deplano, Mauro Franceschelli, Karl H. Johansson "Robust Online Learning over Networks ", IEEE Transactions on Automatic Control, 70(2), pp. 933–946, 2025. DOI: 10.1109/TAC.2024.3441723

J37. Mojtaba Kaheni, Alessandro V. Papadopoulos, Elio Usai, Mauro Franceschelli, "A Privacy-Preserving Distributed Greedy Framework to Desynchronize Power Consumption in a Network of Thermostatically Controlled Loads", IEEE Transactions on Control Systems Technologies, 2024.

J36 Diego Deplano, Mauro Franceschelli, Alessandro Giua, "Stability of Nonexpansive Monotone Systems and Application to Recurrent Neural Networks" IEEE Control Systems letters, 2024.

J35. Eduardo Sebastian, Mauro Franceschelli, Andrea Gasparri, Eduardo Montijano and Carlos Sagues "Accelerated Alternating Direction Method of Multipliers Gradient Tracking (A2DMM-GT) for Distributed Optimization" IEEE Control Systems letters, 2024.

J34. Mojtaba Kaheni, Martina Lippi, Andrea Gasparri, Mauro Franceschelli,"Selective Trimmed Average: a Resilient Federated Learning Algorithm with Deterministic Guarantees on the Optimality Approximation" IEEE Transactions on Cybernetics, 2024, corresponding author. DOI: 10.1109/TCYB.2024.3350387.

J33. Gabriele Oliva, Mauro Franceschelli, Andrea Gasparri, Antonio Scala, "A Sum-of-States Preservation Framework for Open Multiagent Systems With Nonlinear Heterogeneous Coupling", IEEE Transactions on Automatic Control, vol. 69, no. 3, pp. 1991–1998, 2024. DOI: 10.1109/TAC.2023.3317728.

J32. Mojtaba Kaheni, Elio Usai, Mauro Franceschelli, "Resilient and Privacy-Preserving Multi-Agent Optimization and Control of a Network of Battery Energy Storage Systems under Attack", IEEE Transaction on Automation Science and Engineering, 2024, vol. 21, no. 4, pp. 5320–5332, DOI: 10.1109/TASE.2023.3310328.

J31. Eduardo Sebastián, Eduardo Montijano, Carlos Sagues, Mauro Franceschelli, Andrea Gasparri, "Accelerated Multi-Stage Discrete Time Dynamic Average Consensus" IEEE Control Systems letters, 2023, DOI: 10.1109/LCSYS.2023.3289483.

J30. Alessandro Pilloni, Mauro Franceschelli, Alessandro Pisano, Elio Usai, "On the Variable Structure Control Approach with Sliding Modes to Robust Finite-Time Consensus Problems: a Methodological Overview Based on Nonsmooth Analysis", Annual Reviews in Control, Volume 55, 2023, Pages 338-355, 2023.

J29. Diego Deplano, Mauro Franceschelli, Alessandro Giua "Novel Stability Conditions for Nonlinear Monotone Systems and Consensus in Multi-Agent Networks", IEEE Transactions on Automatic Control, Feb 2023, corresponding author. DOI: 10.1109/TAC.2023.3246419

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