PERSONAL INFORMATION

Antonio Ferramosca

University of Bergamo
Department of Management, Information and Production Engineering
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- **ORCID:** 0000-0003-3935-9734
- **Google scholar profile:** https://scholar.google.com/citations?user=tRpe9cIAAAAJ&hl=es&oi=ao
- **Scopus:** 26430530700
- **SSD:** ING/INF-04 Automatica

Sex Male | *Date of birth* 25/03/1982 | *Nationality* Italian

Enterprise	University	EPR
☐ Management Level	☐ Full professor	☐ Research Director and 1st level Technologist / First Researcher and 2nd level Technologist / Principal Investigator
☐ Mid-Management Level	☒ Associate Professor	☐ Level III Researcher and Technologist
☐ Employee / worker level	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

WORK EXPERIENCE

From April 2022-now

Associate Professor

University of Bergamo, Department of Management, Information and Production Engineering

- Teaching, Research

University

From July 2020
To March 2021

Assistant Professor (RTD-B)

University of Bergamo, Department of Management, Information and Production Engineering

- Teaching, Research

University

From January 2017
To June 2020

Associate Researcher

Argentinean Council of Scientific and Technological Research (CONICET)

- Research

University

From April 2018
To June 2020

Lecturer on contract

National Technological University (UTN), Argentina

- Teaching

University

From September 2013
To December 2016

Assistant Researcher

Argentinean Council of Scientific and Technological Research (CONICET)

- Research

University

From April 2012
To August 2013

Post-doctoral Fellow

Argentinean Council of Scientific and Technological Research (CONICET)

- Research

From May 2011
To December 2011

Post-doctoral Fellow

University of Seville, Department of Systems Engineering and Automatica, Spain

- Research

University

From May 2007
To April 2011

Ph.D. student

University of Seville, Department of Systems Engineering and Automatica, Spain

- Research

University

From November 2006
To April 2007

Research Assistant

University of Seville, Department of Systems Engineering and Automatica, Spain

- Research

EDUCATION AND TRAINING

From April 2007
to June 2011

Ph.D. award in Engineering

University of Seville, Department of Systems Engineering and Automatica, Spain

- Tesis Title: “MPC for tracking changing setpoints”
- Advisors: Prof. Eduardo Fernandez Camacho, Prof. Daniel Limon
- Grade: 10/10 summa cum laude
- Skills: Model Predictive Control, optimization, stability, invariance

From October 2004
to September 2006

M.Sc. award in Computer Engineering - Automation

University of Pavia, Italy

- Tesis Title: “Modellizzazione e controllo predittivo della fase di start-up di una centrale a ciclo combinato”
- Advisors: Prof. Lalo Magni
- Grade: 110/110

From October 2001
to July 2004

B.Sc. award in Computer Engineering

University of Pavia, Italy

- Tesis Title: “Modellizzazione di una centrale a ciclo combinato in linguaggio C”
- Advisors: Prof. Lalo Magni
- Grade: 110/110

WORK ACTIVITIES

Main projects
2023-Today

AGeNT*: leaning toward narrow-track vehicles autonomous guidance.* Funded by: Ministero dell’Università e della Ricerca (MUR) as a PRIN grant.

2022-today *ANTHEM: AdvaNced Technologies for Human-centrEd Medicine. Spoke 1: Data and technology driven diagnoses and therapies. Pilot 1.3: Intelligent Artificial Pancreas for Children.* Funded by: Ministero de la Universidad e de la Investigación de Italia (MUR).

2022-today ***KOIOS:*** *Knowledge Extraction, Machine Learning and other AI approaches for secure, robust, frugal, resilient and explainable solutions in Defence Applications. Funded by: European Fund for Defense.*

2020-today *WATCHMAN: Workload-reduction mAchine vision-based TeChnology Hub for MANufacturing.* Regione Lombardia

2020-today *PID2019-106212RB-C41: Safe operation of strategic infrastructure based on constrained optimization.* Universidad de Sevilla - Ministerio de Economía y Competitividad.

2019-2020 *PICT-2019-1794: Diseño de estrategias de control predictivo económico (EMPC) para el seguimiento de trayectorias y caminos variantes en el tiempo, en presencia de obstáculos. Aplicación al trasporte de mercadería liviana (entrega de paquetes).* CONICET, Mincyt Foncyt, Argentina.

2017-2019 *PICT-2016-3613: Herramientas para la optimización del desempeño económico de controladores predictivos en la industria de refinación de petróleo*, CONICET- Mincyt a través de Foncyt, Argentina.

2016-2018 *PICT-2016-0283: Stochastic Economic MPC applied to UAVs control,* CONICET- Mincyt Foncyt, Argentina.

2016-2018 *CNPq-486440/2013-3: Robust Control Strategies of TiltRotor UAVs for Load Transportation Tasks*, Universidade Federal de Minas Gerais - CNPq, Brasil.

2016-2018 *DPI 2016: Operación Económica Basada en Datos de Sistemas Cyber-Físicos*, University of Seville - Funded by Ministerio de Economía y Competitividad.

2013-2017 *Gestión Óptima de Edificios de Energía Cero,* University of Seville - Funded by Junta de Andalucía.

2013-2015 *Desarrollo de una herramienta para el monitoreo y diagnóstico de Aplicaciones de Control Predictivo Multivariable. Aplicación a controladores de tipo predictivo, en las columnas de destilación de la refinería de YPF S.A. en Ensenada*., Funded by YPF S.A., Y-TEC S.A., CONICET

2009-2011 *Networked Predictive Control*, University of Seville - Funded by European Union.

Tutoring activities

Ph.D. Thesis Advisor and Co-advisor

2023-Today Nicola Licini: *Neural Networks based Model Predictive Control for the Artificial Pancreas*
University of Bergamo, Italy
Advisor

2022-Today Beatrice Sonzogni: *Data-driven Model Predictive Control for the Artificial Pancreas*
University of Bergamo, Italy
Advisor

2021-Today Marco Polver: *Model Predictive Control based on Gaussian Processes*
University of Bergamo, Italy
Co-advisor

2021-Today Rodrigo Alarcón: *Learning-based Model Predictive control for smartgrids*
Universidad Nacional del Litoral, Santa Fe, Argentina
Advisor

2018-Today Martin Alarcón: *Economic and Distributed Model Predictive control for smartgrids*
Universidad Nacional del Litoral, Santa Fe, Argentina
Advisor

2018-2023 Marcelo Alves dos Santos: *MPC for UAV autonoumous piloting*
Universidade Federal de Minas Gerais, Belo Horizonte, Brazil
Co-advisor

2017-2023 Pablo Abuin: *Model Predictive Control Algorithms for Artificial Pancreas*
Universidad Nacional del Litoral, Santa Fe, Argentina
Co-advisor

2017-2020 José Maria Vergara Dietrich: *Economic Model Predictive control for solar plants*
Unversidade Federal de Santa Catarina, Florianopolis, Brazil
Co-advisor

2015-2019 Agustina D'Jorge: *Robust and Stochastic Economic MPC*
Universidad Nacional del Litoral, Santa Fe, Argentina
Advisor

Master Degree Theses
25 Master's degree theses

Awards

Best conference paper: 18th IFAC Conference on Control Applications and Optimization. *Artificial pancreas under periodic MPC for trajectory tracking: handling circadian variability of insulin sensitivity* - authors Pablo Abuin, Antonio Ferramosca, Chiara Toffanin, Lalo Magni, Alejandro H. Gonzalez

Editorial activity

International Journals
From 2021 **Associate Editor**
Optimal Control Application and Methods, Wiley.
Journal of Control, Automation, and Electrical Systems
Frontiers in Control Engineering

Conferences
2023 Italian Conference on Automatic Control, SIDRA 2023
2020 27th Argentinean Conference on Automatic Control, AADECA 2020
2018 6th IFAC Conference on Nonlinear Model Predictive Control, NMPC'18
26th Argentinean Conference on Automatic Control, AADECA 2018
2016 25th Argentinean Conference on Automatic Control, AADECA 2016

Invited presentations

06/2023 **Model Predictive Control for the Artificial Pancreas**
University of Seville, School of Engineering, Seville, Spain
11/2019 **Adaptive Control and Nonlinear Systems**
National Technological University (UTN), Santa Fe, Argentina
09/2019 **Economic Model Predictive Control**
University of Seville, School of Engineering, Seville, Spain
04/2019 **Impulsive MPC for Glucose Regulation in T1DM patients**
National Technological University (UTN), Reconquista, Santa Fe, Argentina
02/2018 **Fundamentals of Model Predictive Control**
University of Minas Gerais, School of Engineering, Belo Horizonte, Brazil
11/2016 **Economic Model Predictive Control**
University of Seville, School of Engineering, Seville, Spain
04/2016 **Fundamentals of Model Predictive Control**
University of Santa Catarina, School of Engineering, Florianopolis, Brazil
05/2015 **Multi-model Economic Model Predictive Control**
University of Seville, School of Engineering, Seville, Spain
03/2013 **Distributed Model Predictive Control**
University of Sao Paulo, School of Engineering, Sao Paulo, Brazil
10/2010 **MPC for tracking**
INTEC-CONICET, Santa Fe, Argentina
09/2009 **MPC for tracking**
University of Wisconsin-Madison, Depart. Of Chemical and Biochemical Engineering, Madison, WI, USA

Grants

ANTHEM*: AdvaNced Technologies for Human-centrEd Medicine. Spoke 1: Data and technology driven diagnoses and therapies. Pilot 1.3: Intelligent Artificial Pancreas for Children.* Funded by: Ministero dell'Università e della Ricerca (MUR).
AGeNT*: leaning toward narrow-track vehicles autonomous guidance.* Funded by: Ministero dell'Università e della Ricerca (MUR) as a PRIN grant.
60FERR22: Intelligent Artificial Pancreas, a learning-based MPC approach. University of Bergamo, Departmental funds.
PICT-2019-1794: Diseño de estrategias de control predictivo económico (EMPC) para el seguimiento de trayectorias y caminos variantes en el tiempo, en presencia de obstáculos. Aplicación al trasporte de mercadería liviana (entrega de paquetes). CONICET- Mincyt Foncyt, Argentina.
PID-UTN-CCUTNRQ0006540: Design of IA algorithms for images inspection. Application to rational shepherding. PID UTN, Argentina.
PID-UTN-ENUTNRQ0005536: Modelling of an house Microgrid. Feasibility study and design of automatic control strategies. PID UTN, Argentina. Project Leader.
PICT-2016-0283: Stochastic Economic MPC applied to UAVs control, CONICET- Mincyt Foncyt, Argentina.

Patents

None

ADDITIONAL INFORMATION

Publications

Total number of publications in peer-review journals: 48
Total number of citations (Scopus): 1422
H index (Scopus): 19

Relevant publications (5-10 publications)

1. Ferramosca, A., Limon, D., Alvarado, I., Alamo, T., & Camacho, E. F. (2009). MPC for tracking with optimal closed-loop performance. Automatica, 8(45), 1975-1978.
2. Ferramosca, A., Limón, D., Alvarado, I., & Camacho, E. F. (2013). Cooperative distributed MPC for tracking. Automatica, 49(4), 906-914.
3. Ferramosca, A., Limon, D., & Camacho, E. F. (2014). Economic MPC for a changing economic criterion for linear systems. IEEE Transactions on Automatic Control, 59(10), 2657-2667.
4. Ferramosca, A., Limon, D., González, A. H., Odloak, D., & Camacho, E. F. (2010). MPC for tracking zone regions. Journal of Process Control, 20(4), 506-516.
5. Limon, D., Ferramosca, A., Alvarado, I., & Alamo, T. (2018). Nonlinear MPC for tracking piece-wise constant reference signals. IEEE Transactions on Automatic Control, 63(11), 3735-3750.
6. Marchetti, A. G., Ferramosca, A., & González, A. H. (2014). Steady-state target optimization designs for integrating real-time optimization and model predictive control. Journal of Process Control, 24(1), 129-145.
7. Ferramosca, A., Limon, D., González, A. H., Alvarado, I., & Camacho, E. F. (2012). Robust MPC for tracking zone regions based on nominal predictions. Journal of Process Control, 22(10), 1966-1974.
8. Rivadeneira, P. S., Ferramosca, A., & González, A. H. (2017). Control strategies for nonzero set-point regulation of linear impulsive systems. IEEE Transactions on Automatic Control, 63(9), 2994-3001.
9. Ferramosca, A., González, A. H., & Limon, D. (2017). Offset-free multi-model economic model predictive control for changing economic criterion. Journal of Process Control, 54, 1-13.
10. González, A. H., Ferramosca, A., Bustos, G. A., Marchetti, J. L., Fiacchini, M., & Odloak, D. (2014). Model predictive control suitable for closed-loop re-identification. Systems & Control Letters, 69, 23-33.

A complete list of publications can be found at http://www.antonioferramosca.com/publications/

According to the law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.

Antonio Ferramosca