

Scientific and Professional Curriculum Vitae

Mario Luca Fravolini

Personal data and contact information

Place of birth: Orvieto
Citizenship: Italian
Affiliation: Dipartimento di Ingegneria
Università di Perugia
Via. G. Duranti 93
06100 Perugia, Italy
Phone: +39-075-5853683
Fax: +39-075-5853654
E-mail: mario.fravolini@unipg.it
Homepage: <http://www.ing.unipg.it/it/>

Current position

Associate Professor of Automatic Control July 2015-today
University of Perugia, Italy

Other academic, research, and teaching positions

Visiting Research Assistant Professor October 2006 – December 2006
Dept. Mechanical and Aerospace Engineering
West Virginia University, USA

Assistant Professor of Automatic Control January 2005 – June 2015
Department of Electronic and Information Engineering
University of Perugia, Italy

Post-doctoral researcher of Automatic Control December 2003 – November 2004
Department of Electronic and Information Engineering
University of Perugia, Italy

Visiting Research Assistant Professor October 2003 – December 2003
Dept. Mechanical and Aerospace Engineering
West Virginia University, USA

Visiting Research Assistant Professor May 2002 – July 2002
Dept. Mechanical and Aerospace Engineering
West Virginia University, USA

Visiting Research Assistant Professor May 2001 – July 2001
Dept. Mechanical and Aerospace Engineering
West Virginia University, USA

Visiting Research Assistant Professor October 2000 – December 2000
Dept. Mechanical and Aerospace Engineering
West Virginia University, USA

Post-doctoral researcher of Automatic Control November 1999 – November 2003
Department of Electronic Engineering

University of Perugia, Italy
Visiting Pd.D. Student
School of Aerospace Engineering
Georgia Institute of Technology, Atlanta, Georgia, USA

April 1999 – October 1999

Pd.D. Student in Automatic Control
Department of Electronic Engineering
University of Perugia, Italy

November 1996 – November 1999

Graduated research Scholarship in Automatic Control
Department of Electronic Engineering
University of Perugia, Italy

September 1995 – November 1996

Education

Ph. D in Electronic Engineering (Automatic Control)
University of Perugia, Italy
Dissertation title: Intelligent and robust algorithms
for the active control of large mechanical structures.
Advisor: Prof. M. La Cava

November-1999

Ms Degree in Electronic Engineering
University of Perugia, Italy
Dissertation title: Design of a Fuzzy Controller
Thesis advisor: Prof. A. De Carli.

1994

National qualifications

Scientific qualification as Full Professor
in: Ingegneria Aeronautica, Aerospaziale, e Navale
(Italian "Settore Concorsuale" 09/A1)

2012, 2016

Scientific qualification as Associate Professor
in: Automatica (Italian "Settore Concorsuale" 09/G1)

2012

Title as a qualified engineer

1994

University of Perugia, Italy

He passed the "Esame di Stato" that allows one to practice as an engineer in Italy.

Bibliometric Indexes (Jen 2020)

- 69 Journal Papers
- 6 Book Chapters
- 103 Conference Papers
- Number of Citations 1815 (Google Scholar)
- H-index: 24 (Google Scholar)

Research interests

Since 1997 he has conducted research activity within the Automatic Control Group of the Department of Engineering of the University of Perugia, Italy. In 1999 he was a visiting PhD visiting researcher at the School of Aerospace Engineering of the Georgia Institute of Technology, Atlanta, USA. Since 2000 he collaborates regularly with the Automatic Flight Control Research Group of the Mechanical and Aerospace Engineering, Department of West Virginia University USA, and from 2015 the he collaborates with the Department of Mechanical and Aerospace Engineering of the Missouri University of Science and Technology, Rolla, Missouri, USA.

A schematic list of the main research interests is provided below:

A) Performance oriented Verification and Validation algorithms for uncertain adaptive nonlinear control systems. Specifically, approximation based methods applied to Model Reference Adaptive Control using control Lyapunov functions methods. Probabilistic Verification and Validation of adaptive control systems using the probabilistic "Scenario" method.

B) Online Fault Diagnosis and Isolation techniques for Aircraft and UAVs sensors and actuators. Model-based methods for the design of robust structured redundancy relations. Data-driven design of robust structured redundancy relations, and employment of bounded error methods for the design of robust prediction models.

C) Adaptive and Robust Fault tolerant control techniques in the presence of sensor and actuator failures on aircraft systems. Stochastically Optimal Feedforward and Feedback controller design. Real-time parameter estimation for avionic fault diagnosis and gain scheduling problems.

D) Visual Feedback control algorithms for autonomous aerial robotic operations such as UAV aerial refueling. Development of robust visual feature extraction, matching, and pose estimation algorithms. Sensor fusion algorithms and visual odometry via EKF e UKF.

E) Modelling Identification and Control of uncertain industrial processes. Modelling Identification and Control of industrial bread making industrial plants. Modelling Identification and Control of the Temperature of industrial batch reactors.

F) Control and Optimization of Flexible robotic systems using intelligent techniques. Minimum time trajectories for constrained robotic systems. Evolutionary algorithms for the optimized design of articulated Robotic structures. Nonlinear Constrained Model Predictive Control of Robotic systems. Real-time input shaping.

G) Multivariable control of uncertain structures via Robust linear control approaches. Optimal placement of actuators and sensors on articulated mechanical structures.

H) Biomedical applications. Iterative learning control approaches for the robust feedback control of type-I Diabetes. Machine Learning techniques for the automatic features extraction and classifications of radiological images.

I) Machine learning techniques for the automatic vision based robotic place recognition and video captioning problems.

Coordination and participations in international and national research projects

Role: Participant Contact (PaCo) for the project: **2019-2021**
 Design, Manufacturing and Qualification up to TRL5
 of Innovative Electro-Mechanical BRAKE actuation System for
 SAT Application (Project ID: 821079; Program: Horizon-2020)

Participation to the project: Six DOF scalable finger tracking system **2017-2020**
 Research Project of National Interest (2015-2018),
 by the Italian Ministry for Education,
 University and Research (MIUR)

Participation to the project: **2013-2016**
 S.E.A.L. Smart & Safe Energy aware Assisted Living.
 Research Project of National Interest (2014-2016),
 by the Italian Ministry for Education,
 University and Research (MIUR)

Participation to the project: Efficacy evaluation of the damping of liquor oscillations in the treatment of the obstructive hydrocephalus. PRIN-2008 (MIUR)	2010-2012
Participation to the project: Change and failure detection, isolation and control reconfiguration in autonomous systems: methods and applications. COFIN-2004-2006 (MIUR)	2004-2006
Principal Investigator of the project: Control algorithms for the UAV autonomous aerial refueling Institute for Scientific Research USA and West Virginia University	2003-2004
Participation to the project: Design of fault diagnosis algorithms for aircrafts using neuro-adaptive virtual sensors. University of Perugia	2003-2004
Participation to the project: Fault diagnosis and control reconfiguration: methods and operative tools for the supervision of industrial automation systems. COFIN-2002-2004 (MIUR)	2002-2004
Principal Investigator of the project: Real-time learning neural networks for the fault tolerant control of nonlinear dynamical systems. Young researcher project, University of Perugia	2001-2002
Participation to the project: NASA IFCS (Intelligent Flight Control System) F-15 project neuro-adaptive virtual sensors. By NASA-Dryden, Institute for Scientific Research and West Virginia University.	2000-2003
Participation to the project: Modelling and control issues for autonomous intelligent Unmanned Air Vehicles (UAVs) project. By the US Air Force, Institute for Scientific Research and West Virginia University.	2000-2003
Participation to the project: Advanced control techniques for the active control of civil engineering structures. University of Perugia.	1999-2003
Participation to the project: RAMSETE: Articulated and mobile robots for services and technologies PRIN-1998 (MIUR)	1998-2000

International Scientific Collaborations

- West Virginia University (Morgantown , WV, USA), Department of Mechanical and Aerospace. (Prof. M. Napolitano, Prof. Mario George Perhinschi, Prof. Yu Gu, Prof. Bojan Cukic, Dr. G. Campa)
- Missouri University of Science and Technology, Rolla, Missouri, USA. Department of Mechanical and Aerospace Engineering. (Prof. T. Yucelen)
- Lab. for Autonomy, Control, Information, and Systems (LACIS) University of South Florida (Prof. T Yucelen).
- School of Aerospace Engineering Georgia Institute of Technology. Atlanta, Georgia,

USA. (Prof. A.J Calise)

- Saint Louis University. Parks College of Engineering, Aviation and Technology, Saint Louis, Missouri, USA. (Dr. Srikanth Gururajan)
- NASA Dryden Flight Research Center, Edwards, California, USA. (Dr. J. Burken)
- NASA Ames Research Center. Intelligent Systems Division Moffett Field, CA, USA. (Dr. Nhan Nguyen)
- US Air Force Research Laboratory (Air Vehicles Directorate Control Science Center of Excellence). OH, USA. (Dr. Jonathan Muse)
- Institute for Software Research, Fairmont West Virginia, USA. (Dott. G. Marani)
- The MathWorks, San Francisco, USA. (G. Campa)

National Scientific Collaborations

- Politecnico di Torino. Dipartimento di Ingegneria Meccanica e Aerospaziale. (Prof. A. Gili, Prof. M. Battipede)
- Università Cattolica Sacro Cuore, Roma. Dipartimento di Scienze Chirurgiche. (Prof. C. Anile)
- Università di Roma La Sapienza. Dipartimento di Informatica e Sistemistica. (Prof. A De Carli, Prof. A. Isidori)
- Università di Perugia. Sezione Bioingegneria, Dipartimento di Medicina Interna e Scienze Endocrine e Metaboliche. (Prof. P.G. Fabietti)
- Università di Perugia. Dipartimento di Scienze Chirurgiche e Biomediche. (Prof. B. Palumbo, Prof. M Scialpi)

Editorial activity

Member of the IEEE Control Systems Society

Conference Editorial Board (CEB)

2019-now

Associate Editor

The Scientific World Journal

2012

Aerospace Engineering ISRN

2012

International Journals and Conference reviewer for:

IEEE Transaction on Control System Technology; IEEE Transaction on Neural Networks; IEEE Transaction on System Man and Cybernetics Part C; IEEE Transaction on Aerospace and Electronic Systems; IEE Proceedings Control Theory and Applications; International Journal of Control; International Journal of Adaptive Control and Signal Processing; International Journal of Modeling, Identification and Control; International Journal of Adaptive Control and Signal Processing; Chinese Journal of Aeronautics; The Scientific World Journal; Aerospace Engineering ISRN; Applied Energy; IEEE-American Control Conference; IEEE-Conference on Decision and Control; AIAA-Guidance and Navigation conference and Exhibit.

Awards

- 2013. Co-author of First Prize in Neurology, 2nd "International Medical Olympiad" Congress, Salonicco, Grecia, 18-20 October 2013 for the paper "More accurate diagnosis of Parkinson's disease by 123I-FP-CIT brain SPET semiquantitative analysis, evaluated by Support Vector Machine classifier (SVM) and related to age.
- 2012. Commendation Letter by The MathWorks for the "outstanding achievement" for the development of the "Adaptive Neural Network toolbox". More than 20.000 download in the periodo 2001-2012).
- 2005. Commendation Letter for the "for the amazing contribution" to the NASA Intelligent Flight Control System (IFCS) F-15 project" leading to the "2005 NASA Outstanding Service Achievement Award"
- 2004 Bias 2004 Automation Awards for the Best Application of Process Automation.

Paper: P.Valigi, M.L. Fravolini, A. Ficola, M. Forlucci, C. Sandali, E.Bove, "Una nuova Strategia per il controllo di Temperatura di reattori batch.

- 1998 best paper award at the conference AUTOMAZIONE 98 (premio 3 milioni of liras) 24-25 November 1998. Paper: M.L. Fravolini, A. Ficola, L. Gabrielli, M. La Cava, F. Ghirelli. " Un efficiente classificatore neurale per immagini complesse mediante preelaborazione con analisi delle componenti principali"

Coordination and participations to industrial technological transfer projects

Participation to the project: Modelling and control of the proofing process for an bread making industrial plant. Colussi Perugia SpA and University of Perugia.	1995-1996
Participation to the project: Modelling and control of the temperature of industrial batch reactors. Ciba S.C. SpA and University of Perugia.	2004-2005
Participation to the project: Nemo: Vision Based navigation. Carlo Gavazzi Space SpA, Milano and University of Perugia.	2009-2010
Participation to the project: Design of a Solar Energy Electrical pump prototype UMBRA Cuscinetti S.p.A, Foligno and University of Perugia.	2009-2011
Participation to the project: Magnetic and vision-based methods for the detection and classification of superficial defects in rolled steel. Thyssen-Krupp SpA, Terni and University of Perugia.	2009-2011
Participation to the project: Design of a robotic systems for the "scricatura in forgiati in alluminio". Thyssen-Krupp SpA, Terni and University of Perugia.	2012-2012
Participation to the project: Equipments for the characterization of the Electrical power quality Cassa di Risparmio di Perugia and University of Perugia.	2012-2012
Participation to the project: Development of a simulation model for the evaluation of energetic flows for a Kyto-lift system. CIAM SpA, Terni and University of Perugia.	2012-2012
Participation to the project: Validation and Verification of electronic and energetic equipments CIAM SpA, Terni and University of Perugia.	2012-2012
Participation to the project: Design of a robotic systems for the "scricatura in forgiati in alluminio". (Prosecution) Thyssen-Krupp SpA, Terni and University of Perugia.	2013-2014

Fellowships and supporting grants

National Research Council (CNR) 2001
 Short Term Mobility Grant for the
 project: Experimentation of o Neural Network
 virtual sensors for aircraft fault diagnosis.

National Research Council (CNR) 2000
 Short Term Mobility Grant for the
 project: Design of neural network schemes
 for the fault tolerant control of nonlinear systems

Teaching activity at academic institutions in Italy

B.Sc. University of Perugia, Italy.

Title:	Elementi di Automatica: Corso di Laurea in Ingegneria Meccanica
Credits:	6
Academic year:	2019-2020
Title:	Controllo ed Automazione: Corso di Laurea Mag. in Ingegneria Informatica
Credits:	3
Academic year:	2017-2020
Title:	Fondamenti di Automatica: Corso di Laurea in Ing. Elettronica ed Informatica
Credits:	9
Academic year:	2017-2020
Title:	Ingegneria del Controllo: Corso di Laurea in Ing. Elettronica ed Informatica
Credits:	9
Academic year:	from 2009-2010 to 2016-2017
Title:	Controlli e Misure per l'Automazione: Corso di Laurea in Ing. Gestionale
Credits:	3
Academic year:	from 2014-2015 to 2017-2018
Title:	Sistemi di Controllo ed Automazione: Corso di Laurea in Ing. Gestionale
Credits:	6
Academic year:	2012-2013 and 2013-2014
Title:	Sistemi di Controllo: Corso di Laurea in Ing. Gestionale
Credits:	5
Academic year:	from 2003-2004 to 2011-2012
Title:	Bioingegneria ed Informatica Medica: Corso di laurea in Medicina
Credits:	2
Academic year:	from 2012-2013 to 2016-2017

Teaching activity at foreign institutions

Title:	Automatic Control
Hours:	14 hours (didactic seminars)
Academic year:	2006
Institution	West Virginia University
Title:	Flight Control Systems
Hours:	14 hours (didactic seminars)
Academic year:	2003 and 2006

Research supervision

Ph.D. students

- Dr. Simone Fiani. Autonomous Vision Based Navigation. Ph.D program in Information Engineering, University of Perugia, XXIII, 2012.
- Dr. Silvia Cascianelli. Machine Learning techniques for robotic place recognition and Video captioning problems. Ph.D program in Industrial and Information Engineering, University of Perugia, 2016-2018
- Dr. Raffaella Grieco. Machine Learning techniques for monitoring of industrial processes. Ph.D program in Industrial and Information Engineering, University of Perugia, 2017-2020

List of Publications

International Journals

- [J1] B. Palumbo, D. Cadini, G. Nocentini, E. Filippini, M. L. Fravolini, U. Senin. "Angiotensin Converting Enzyme Deletion allele in different kinds of dementia disorders" , *Neuroscience Letters*, vol. 267, no. 2, pp. 97-100, 1999. DOI: 10.1016/S0304-3940(99)00329-8, Elsevier Science, Ireland, ISSN: 03043940.
- [J2] M.L. Fravolini, M. La Cava, "Near-Minimum-Time Trajectories for Robotic Systems using Adaptive Evolutionary Algorithms", *International Journal on Robotics and Automation*, vol. 16, no. 1, pp. 35-44, 2001, Acta Press, Calgary, Canada, ISSN:0826-8185(206).
- [J3] M.L. Fravolini, A. Ficola, M. La Cava, M. Gioffrè, "Extending Fatigue Life of Wind Exited Structures via Robust Control" , *International Journal of Aerodynamics and Wind Engineering*, vol. 2001, no. 22 pp. 1-20, 2001. (pubblicato in formato elettronico: sito web: <http://ag21-cmms.mec.dii.unipg.it/portale3>).
- [J4] G. Campa, M.L. Fravolini, B. Seanor, M.R. Napolitano, D. Del Gobbo, G. Yu, S. Gururajan, "On-Line Learning Neural Networks for Sensor Validation for the Flight Control System of a B777 Research Scale Model" , *International Journal of Robust and Nonlinear Control*, vol. 12, no. 11, pp. 987-1007, 2002. DOI: 10.1002/rnc.728 John Wiley & Sons Publishing Inc., Indianapolis, ISSN: 1049-8923.
- [J5] M.L. Fravolini, A. Ficola, M. La Cava, "Improved Evolutionary Predictive Controllers for real time application" , *Control and Intelligent Systems*, vol. 31, no. 1, pp.16-29, 2003, Acta Press, Calgary,Canada ISSN: 1480-1752 (201).
- [J6] Anile C., Ficola A., Fravolini M.L., La Cava M., Maira G., Mangiola A., Marchese E. "ICP and CBF regulation: effect of the decompressive craniectomy", *Acta Neurochir suppl.*, vol. 81, pp. 109-111, 2002. ISBN: 3-211-83776-0.
- [J7] Anile C., Ficola A., Fravolini M.L., La Cava M., Maira G., Mangiola A., "ICP and CBF regulation: a new hypothesis to explain the "windkessel" phenomenon", *Acta Neurochir, suppl.* vol. 81, pp. 113-116, 2002. ISBN 3-211-83776-0.
- [J8] M.L. Fravolini, A. Ficola, M. La Cava, "Optimal operation of the leavening process for a bread-making industrial plant" , *Journal of Food Engineering*, vol. .60, no. 3, pp. 289-299, 2003. DOI: 10.1016/S0260-8774(03)00050-5, Elsevier Science ltd, Oxford. ISSN: 0260-8774.
- [J9] M.L. Fravolini, A. Ficola, M. La Cava, "Predictive Reference Shaping for Constrained Robotic Systems Using Evolutionary Algorithms" , *Applied Soft Computing*, vol. 3, no. 4, pp. 325-341, 2003. DOI: 10.1016/j.asoc.2003.05.003, Elsevier Science, Amsterdam, ISSN:1568-4946.
- [J10] M.L. Fravolini, G. Campa, M.R. Napolitano, M. Perhinschi, "Learning Based Sensor Validation Scheme Within Flight Control Laws", *AIAA Journal of Guidance, Control, and Dynamics*, vol. 27, no. 2, pp. 307-310, 2004. American Institute of Aeronautics and Astronautics, ISSN: 0731-5090.
- [J11] S. Wan, G. Campa, M.R. Napolitano, B. Seanor, M.L. Fravolini, "Design of formation control laws for manoeuvred flight" , *The Aeronautical Journal*, vol. 108, no. 1081, pp. 125-135, 2004. Royal Aeronautical Society, ISSN: 0001-9240.
- [J12] M.L. Fravolini, A.Ficola, G. Campa, M.R. Napolitano, B. Seanor, "Modeling and Control Issues for Autonomous Aerial Refueling for UAVs Using a Probe-Drogue Refueling System" , *Aerospace Science and Technology*, vol 8/7, pp 611-618, 2004. DOI: 10.1016/j.ast.2004.06.006, Elsevier, ISSN: 1270-9638.
- [J13] M.L. Fravolini, A. Ficola, M. La Cava , M. Gioffrè, "Life Extending Robust Control of a Wind Excited Antenna" , *Computers-and Structures*, vol. 84 no. 5-6, pp. 413-430, 2006. DOI: 10.1016/j.compstruc.2005.09.028, Pergamon-Elsevier Science Ltd, Oxford, ISSN: 0045-7949.
- [J14] M.G. Perhinschi, G. Campa, M. R. Napolitano, M. Lando, L. Massotti, M.L. Fravolini, "Modelling and simulation of a fault tolerant flight control system" , *International Journal of Modelling and Simulation*, vol. 26, no.1, pp.1-10, 2006. Acta Press, Calgary, Canada, ISSN: 0228-6203 (205).

- [J15] P. Valigi, M.L. Fravolini, A. Ficola, "Improved temperature control of a batch reactor with actuation constraints", *Control Engineering Practice*, vol. 14, no. 7, pp. 783-797, 2006. DOI: 10.1016/j.conengprac.2005.04.004, Pergamon-Elsevier Science Ltd, Oxford, ISSN: 0967-0661.
- [J16] G. Campa, Y. Gu, B. Seanor, M. Napolitano, L. Pollini, M.L. Fravolini, "Design And Flight Testing Of Nonlinear Formation Control Laws", *Control Engineering Practice*, vol. 15, no. 9, pp.1077-1092, 2007. DOI: 10.1016/j.conengprac.2007.01.004, Pergamon-Elsevier Science Ltd, Oxford, ISSN: 0967-0661.
- [J17] M.L. Fravolini, G. Campa, M. Napolitano, "Evaluation of Machine Vision Algorithms for Autonomous Aerial Refueling for Unmanned Aerial Vehicles", *AIAA Journal of Aerospace Computing, Information and Communication*, vol. 4, no. 9, pp. 968-985, 2007. ISSN 1542-9423.
- [J18] G. Campa, M. Napolitano, M. Perhinschi, M.L. Fravolini, L. Pollini, M. Mammarella, "Addressing pose estimation issues for machine vision based UAV autonomous aerial refueling", *The aeronautical Journal*, vol. June, pp 389-396, 2007. Royal Aeronautical Society, ISSN: 0001-9240.
- [J19] S. Vendra, G. Campa, M. Napolitano, M. Mammarella, M.L. Fravolini, M. Perhinschi, "Addressing corner detection issues for machine vision based uav aerial refueling", *Machine vision and applications*, vol. 18, pp. 261-273, 2007. DOI: 10.1007/s00138-006-0056-9, Springer Verlag, ISSN 0932-8092.
- [J20] M. Mammarella, G. Campa, M.R. Napolitano, M.L. Fravolini, "Comparison of Point Matching Algorithms for the UAV Aerial Refueling Problem", *Machine Vision and Applications*, vol. 21, no. 3, pp. 241-251, 2010. DOI: 10.1007/s00138-008-0149-8, Springer, ISSN 0932-8092.
- [J21] Perhinschi, M. G., Napolitano, M. R., Campa, G., Fravolini, M.L., Seanor, B., "Integration of Sensor and Actuator Failure Detection, Identification, and Accommodation Schemes Within Fault Tolerant Control Laws", *Control and Intelligent Systems*, vol.35, no. 4, pp.309-318, 2007. DOI: 10.2316/Journal.201.2007.4.201-1657, Acta Press, Calgary, Canada, ISSN: 1480-1752 (201).
- [J22] M.L. Fravolini, G. Campa, M. Napolitano, "Modelling and performance analysis of a machine vision-based semi-autonomous aerial refuelling", *International Journal of Modeling Identification and Control*, vol. 3, no. 4, pp. 357-367, 2008. DOI: 10.1504/IJMIC.2008.020544, Inderscience Enterprises Ltd, ISSN: 1746-6172.
- [J23] G. Campa, M. Napolitano, M.L. Fravolini, "A Simulation Environment for Machine Vision Based Aerial Refueling for UAV", *IEEE Transaction on Aerospace and Electronic Systems*, vol. 45, no. 1, pp. 138-151, 2009. DOI: 10.1109/TAES.2009.4805269, ISSN: 0018-9251.
- [J24] M. Mammarella, G. Campa, M. Napolitano, M.L. Fravolini, M. Perhinschi, Y. Gu, "Machine Vision / GPS Integration Using EKF for the UAV Aerial Refueling Problem", *IEEE Transactions on Systems, Man, and Cyber and Cybernetics, Part C: Applications and Reviews*, vol. 38, no. 6, pp. 791-801, 2008. DOI: 10.1109/TSMCC.2008.2001693, ISSN: 1094-6977.
- [J25] M.L. Fravolini, V. Brunori, G. Campa, M.R. Napolitano, M. La Cava "A structural analysis approach for the generation of structured residuals for aircraft FDI", *IEEE Transaction On Aerospace and Electronic Systems*, vol. 45, no. 4, pp. 1466-1482, 2009. DOI: 10.1109/TAES.2009.5310311, ISSN: 0018-9251.
- [J26] M.L. Fravolini, G. Campa, "Design of robust redundancy relations with application to a semi-scale yf-22 aircraft model", *Control Eng. Practice*, vol. 17, no. 7, pp. 773-786, 2009. DOI: 10.1016/j.conengprac.2008.12.006, Elsevier, ISSN: 0967-0661.
- [J27] M.L. Fravolini, G. Campa, M.R. Napolitano, "An Explicit Feedforward and Feedback Technique for Flight Control Systems of High Performance Aircraft", *Automatic control in Aerospace*, Year 2 - N°1 - June 2009, ISSN 1974-5168. available:<http://www.aerospace.unibo.it/login.php>.
- [J28] G. Campa, M.L. Fravolini, M. Mammarella, M.R. Napolitano, "Bounding Set Calculation for Neural Network Based Output Feedback Adaptive Control Systems", *Neural Computing and Applications*, vol. 20, no. 3, pp. 373-387, 2011. DOI:10.1007/s00521-010-0404-6, Springer, ISSN: 0941-0643.
- [J29] Palumbo B, Fravolini M.L., Nuvoli S., Spanu A., Paulus K.S., Schillaci O., Madeddu G., "Comparison of two neural network classifiers in the differential diagnosis of essential tremor and Parkinson's disease by (123)I-FP-CIT brain SPECT", *European Journal Nuclear Medicine and Molecular Imaging*, vol. 37, no. 11, pp. 2146-2153, 2010. DOI: 10.1007/s00259-010-1481-6, Springer, ISSN: 1619-7070.
- [J30] M.L. Fravolini, G. Campa, "Design of a Neural Network Adaptive controller via a constrained Invariant Ellipsoids Technique", *IEEE Transactions on Neural Networks*, vol. 22, no. 4, pp. 627-638, 2011. DOI:10.1109/TNN.2011.2111385, ISSN 1045-9227.
- [J31] M.L. Fravolini, G. Campa, M.R. Napolitano, "Performance-Oriented Adaptive Neural Augmentation of an Existing Formation Flight Controller", *IET Control Theory & Applications Journal*, vol. 5, no. 16, pp. 1819-1828, 2011. DOI: 10.1049/iet-cta.2010.0529, ISSN 1350-2379.
- [J32] M.L. Fravolini, G. Campa, "Integrated design of a linear/neuro-adaptive controller in presence of norm-bounded uncertainties", *International Journal of Control*, vol. 84, no. 10, pp.1664-677, 2011. DOI:10.1080/00207179.2011.623327, Taylor & Francis, ISSN 0020-7179.

- [J33] M. Mammarella, G.Campa, M.L. Fravolini, M.R. Napolitano, "Comparing Optical Flow Algorithms using 6-DOF Motion of Real-World Rigid Objects" , *IEEE Transaction on System, Man and Cybernetics- part-C: Applications and Reviews*, vol. 42, no. 6, pp. 1752-1762, 2012. DOI: 10.1109/TSMCC.2012.2218806, ISSN: 1094-6977.
- [J34] B. Palumbo, M. L. Fravolini, "To what extent can artificial neural network support nuclear medicine?" *Hellenic journal of nuclear medicine*, vol. 15, no. 3, pp. 180-183, 2012. DOI:10.1967/s002449910050, LK Digital Printing, Mitropoleos, ISSN 1790-5427.
- [J35] M. Fravolini, P.G. Fabietti, "A learning strategy for the auto-tuning of the Feedforward and Feedback controller in Type-1 Diabetes", *Computer Methods in Biomechanics and Biomedical Engineering*, vol. 17, no. 13, pp. 1464-82, 2014. DOI: 10.1080/10255842.2012.753064, Taylor & Francis, ISSN: 1025-5842.
- [J36] M. Ricci, A. Ficola, M.L. Fravolini, L. Battaglini, A. Palazzi, P. Burrascano, P. Valigi, L. Appolloni, S. Cervo, C. Rocchi, "Magnetic Imaging and Machine Vision NDT for the On-Line Inspection of Stainless Steel Strips" , *Measurement Science and Technology*, vol. 24, no. 2, 2013. DOI:10.1088/0957-0233/24/2/025401, IopScience, ISSN: 0957-0233.
- [J37] Palumbo B., Buresta T., Nuvoli S., Spanu A., Schillaci O., Fravolini M.L., Palumbo I., "SPECT and PET Serve as Molecular Imaging Techniques and in Vivo Biomarkers for Brain Metastases" , *International Journal of Molecular Sciences*, vol. 15, no. 6, pp. 9878-9893, 2014. DOI:10.3390/ijms15069878, ISSN: 422-0067.
- [J38] M.L. Fravolini, G. Campa, "Design of an Amplitude-Bounded Output Feedback Adaptive Neural Control with Guaranteed Componentwise Performance", *Neural Computing and Applications*, vol. 25, no. 6, pp. 1313-1328, 2014. DOI: 10.1007/s00521-014-1612-2, ISSN:0941-0643, Springer, ISSN: 0941-0643.
- [J39] M.L. Fravolini, M. Rhudy, S. Gururajan, S. Cascianelli, M. Napolitano, "Experimental Evaluation of Two Pitot Free Analytical Redundancy Techniques for the Estimation of the Airspeed of an UAV" , *SAE International Journal of Aerospace*, vol. 7, no. 1, pp. 109-116, 2014. DOI:10.4271/2014-01-2163. ISS: 1946-3855.
- [J40] M.L. Fravolini, T. Yucelen, G. Campa, "Set theoretic performance verification of low-frequency learning adaptive controllers", *International Journal of Adaptive Control and Signal Processing*, 15 dec. 2014. DOI: 10.1002/acs.2530, Wiley, ISSN: 0890-6327.
- [J41] B. Palumbo, M.L. Fravolini, T. Buresta, F. Pompili, N. Forini, P. Nigro, P. Calabresi, N. Tambasco, "Diagnostic Accuracy of Parkinson Disease by Support Vector Machine (SVM) Analysis of 123I-FP-CIT Brain SPECT Data: Implications of Putaminal Findings and Age", *Medicine*, vol. 93, no. 27, 2014. DOI: 10.1097/MD.000000000000228, Wolterskluwer, ISSN: 0025-7974.
- [J42] Palumbo B., Sivolella S., Palumbo I., Buresta T., Radicchia V., Fravolini M.L., Ferretti F., Bellavita R., Mearini L., Scialpi M., Aristei C., Pelliccia G., "Influence of hormonal therapy in prostate cancer patients undergoing 18Fluoromethylcholine PET/CT: a retrospective study", *The Quarterly Journal of Nuclear Medicine and Molecular Imaging*, Jul, 2014. PubMed PMID: 25017896. 60 (4), pp. 397-403.
- [J43] M.B. Rhudy, M.L. Fravolini, Y. Gu, M.R. Napolitano, S. Gururajan and H. Chao, "Aircraft Model Independent Airspeed Estimation without Pitot Tube Measurements", *IEEE Transactions on Aerospace and Electronic Systems*. (2015) vol. 51, n°3, pp. 1980-1995. ISSN: 0018-9251.
- [J44] M.L. Fravolini, S. Cascianelli, P.G. Fabietti, "A Learning strategy for the Autonomous Control of type-1 diabetes", *Applied Artificial Intelligence*. (2015), vol.29. n°6,pp. 531-562. DOI: 10.1080/08839514.2015.1038431, Taylor&Francis, ISSN: 0883-9514.
- [J45] Palumbo I, Palumbo B, Fravolini ML, Marcantonini M, Perrucci E, Latini ME, Falcinelli L, Sabalich I, Tranfaglia C, Schillaci G, Mannarino E. "Brain natriuretic peptide as a cardiac marker of transient radiotherapy-related damage in left-sided breast cancer patients: A prospective study", *Breast (Edinburgh, Scotland)*, (2015) 25, pp. 45-50. DOI: 10.1016/j.breast.2015.10.004, ,
- Pasku, Valter, Mario Luca Fravolini, and Antonio Moschitta. "Effects of antenna directivity on RF ranging when using space diversity techniques." *Measurement: Journal of the International Measurement Confederation*, (2017), vol. 98, pp. 429-438. doi:10.1016/j.measurement.2015.11.030, , pp. 429-438.
- [J46] M.L. Fravolini, T. Yucelen, A. Ficola and M. R. Napolitano, "Probabilistic Estimation of the Reachable Set of Model Reference Adaptive Controllers using the Scenario Approach". (2017) *International Journal of Control*, 90 (2), pp. 323-337. DOI: 10.1080/00207179.2016.1178808
- [J47] S. Cascianelli, M. Scialpi, S. Amici, N. Forini, M. Minestrini, M.L. Fravolini, H. Sinzinger, O. Schillaci, B. Palumbo. "Role of Artificial Intelligence Techniques (Automatic Classifiers) in Molecular Imaging Modalities in Neurodegenerative Diseases", *Current Alzheimer research*, 2016,13 (10). DOI: 10.2174/1567205013666160620122926
- [J48] M.L. Fravolini, T. Yucelen, M.R. Napolitano, "Probabilistic analysis and verification framework for adaptive flight control" (2017) *Journal of Guidance, Control, and Dynamics*, 40 (3), pp. 537-547. doi.org/10.2514/1.G001803.
- [J49] Cascianelli, S., Costante, G., Bellocchio, E., Valigi, P., Fravolini, M.L., Ciarfuglia, T.A, Robust visual semi-semantic loop closure detection by a covisibility graph and CNN features, (2017) *Robotics and Autonomous Systems*, vol. 92, pp. 53-65. DOI: 10.1016/j.robot.2017.03.004.

- [J50] I. Venanzi, M.L. Fravolini, L. Ierimonti, "Multi-model robust adaptive control of tall buildings" (2017) *Meccanica*, 52 (13), pp. 3237-3253. DOI: 10.1007/s11012-017-0619-z
- [J51] M.L. Fravolini, G. Del Core, U. Papa, P. Valigi, M.R. Napolitano, "Data-Driven Schemes for Robust Fault Detection of Air Data System Sensors", *IEEE Transactions on Control Systems Technology* (2017). DOI: 10.1109/TCST.2017.2758345.
- [J52] A. Ficola, F. Castellani and M.L. Fravolini. "CLOSED-FORM AERODYNAMIC DERIVATIVES OF MULTICOPTER PROPELLERS IN GENERAL MOTION, *International Journal of Simulation Systems, Science & Technology*, (2017) vol. 18, n° 3. DOI 10.5013/IJSSST.a.18.03.02.
- [J53] S. Cascianelli, G. Costante, T.A. Ciarfuglia, P. Valigi, M.L. Fravolini, "Full-GRU Natural Language Video Description for Service Robotics Applications." *IEEE Robotics and Automation Letters* (2018). Vol. 3, N. 2, pp. 841-848. DOI: 10.1109/LRA.2018.2793345.
- [J54] Cascianelli S., Tranfaglia C., Fravolini M.L., Bianconi F., Ministrini M., Nuvoli S., Tambasco N., Dottorini M.E., Palumbo B. "Right putamen and age are the most discriminant features to diagnose Parkinson's disease by using 123I-FP-CIT brain SPET data by using an artificial neural network classifier, a classification tree (CIT)", *Hellenic journal of nuclear medicine*, vol. 20, pp.165, 2017
- [J55] Palumbo, B; Santonicola, A; Cascianelli, S; Nuvoli, S; Fravolini, ML; Ministrini, M; Scialpi, M; Tambasco, N; Spanu, A; Madeddu, G; "Role of an artificial neural network classifier, a classification tree (CIT), to diagnose Parkinson's disease in early phase by using 123I-FP-CIT brain SPECT data"; *EUROPEAN JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING*, 44, S191-S191 2017.
- [J56] Cascianelli, Silvia; Costante, Gabriele; Ciarfuglia, Thomas A; Valigi, Paolo; Fravolini, Mario L; "Full-GRU natural language video description for service robotics applications", *IEEE Robotics and Automation Letters*, vol. 3, no.2, pp. 841-848, 2018.
- [J57] Bianconi, Francesco; Fravolini, Mario Luca; Bello-Cerezo, Raquel; Ministrini, Matteo; Scialpi, Michele; Palumbo, Barbara; "Evaluation of shape and textural features from CT as prognostic biomarkers in non-small cell lung cancer"; *Anticancer research*, vol. 38, no. 4, pp. 2155-2160, 2018.
- [J58] Fravolini, Mario L; Napolitano, Marcello R; Del Core, Giuseppe; Papa, Umberto "Experimental interval models for the robust fault detection of aircraft air data sensors"; *Control Engineering Practice* .vol. 78, pp. 196-212, 2018.
- [J59] Crispoltoni, M.; Fravolini, ML.; Balzano, F.; D'urso, S.; Napolitano, MR.; "Interval Fuzzy Model for Robust Aircraft IMU Sensors Fault Detection"; *Sensors*, vol. 18, pp. 2488, Jan, 2018
- [J60] Fravolini, M.L.; Cone, A.; Napolitano, M.; Pradhan, S; Thiruvengadam, A.; Selimi, B.; "Comparative Analysis of Performance of Neural Estimators for Diagnostics in Engine Emission System"; *SAE International Journal of Engines*, vol. 11, no. 3, pp. 277-288, 2018.
- [J61] Balzano, Fabio; Fravolini, Mario L; Napolitano, Marcello R; d'Urso, St, phane; Crispoltoni, Michele; del Core, Giuseppe; "Air Data Sensor Fault Detection with an Augmented Floating Limiter"; *International Journal of Aerospace Engineering* 2018
- [J62] Ficola, Antonio; Fravolini, Mario Luca; Anile, Carmelo; "A physical model of the intracranial system for the study of the mechanisms of the cerebral blood flow autoregulation"; *IEEE Access* 6 67166-67175, 2018.
- [J63] Astolfi, Davide; Castellani, Francesco; Fravolini, Mario Luca; Cascianelli, Silvia; Terzi, Ludovico; "Precision Computation of Wind Turbine Power Upgrades: An Aerodynamic and Control Optimization Test Case"; *Journal of Energy Resources Technology*. vol. 141, no. 5, 51205, 2019
- [J64] Rhudy, Matthew B; Fravolini, Mario L; Porcacchia, Marco; Napolitano, Marcello R; "Comparison of wind speed models within a Pitot-free airspeed estimation algorithm using light aviation data"; *Aerospace Science and Technology*, vol. 86, pp. 21-29, 2019.
- [J65] Arabi, Ehsan; Yucelen, Tansel; Gruenwald, Benjamin C; Fravolini, Mario; Balakrishnan, Sivasubramanya; Nguyen, Nhan T; "A neuroadaptive architecture for model reference control of uncertain dynamical systems with performance guarantees"; *Systems & Control Letters*, vol. 125, pp.37-44, 2019.
- [J66] Bianconi, Francesco; Palumbo, Isabella; Fravolini, Mario Luca; Chiari, Rita; Ministrini, Matteo; Brunese, Luca; Palumbo, Barbara; "Texture Analysis on [18 F] FDG PET/CT in Non-Small-Cell Lung Cancer: Correlations Between PET Features, CT Features, and Histological Types"; *Molecular Imaging and Biology*, 10-Jan, 2019.
- [J67] Cascianelli, Silvia; Costante, Gabriele; Devo, Alessandro; Ciarfuglia, Thomas; Valigi, Paolo; Fravolini, Mario Luca; "The Role of the Input in Natural Language Video Description"; *IEEE transactions on Multimedia* 2019
- [J68] Nuvoli, Susanna; Spanu, Angela; Fravolini, Mario Luca; Bianconi, Francesco; Cascianelli, Silvia; Madeddu, Giuseppe; Palumbo, Barbara; "[123-I] Metaiodobenzylguanidine (MIBG) Cardiac Scintigraphy and Automated Classification Techniques in Parkinsonian Disorders"; *Molecular imaging and biology* 8-Jan 2019.
- [J69] E Bellocchio, G Costante, S Cascianelli, ML Fravolini, P Valigi. Combining Domain Adaptation and Spatial Consistency for Unseen Fruits Counting: A Quasi-Unsupervised Approach, *IEEE Robotics and Automation Letters* 5 (2), 1079-1086

Book Chapters

- [L1] A. Brunozzi, A. Ficola, M.L. Fravolini, M. La Cava, "Fuzzy-Evolutionary Techniques in Optimal Control Problems for Robot Manipulators", *New Frontiers in Computational Intelligence and its Applications*, pp. 158-167, Editor of the book M. Mohammadian, IOS Press Amsterdam, Aprile 2000, ISBN: 9051994761.
- [L2] M.L. Fravolini, A. Ficola, M. La Cava, "On the control of Flexible Robots" in Ramsete: Articulated and Mobile Robotics for Services and Technologies, Lecture note in control and Information Sciences, vol. 270, pp. 103-117, Editors S. Nicosia, B. Siciliano, A. Bicchi, P.Valigi, Springer-Verlag, Berlin Heidelberg, Germany, Volume 270/2001, ISSN: 0170-8643.
- [L3] M.L. Fravolini, A. Ficola, M. La Cava, invited chapter per il libro: *Frontiers in Evolutionary Robotics* curato da Prof. Aleksandar Lazinica (Editor-in-Chief of International Journal of Advanced Robotic). Titolo del capitolo: "Real-Time Evolutionary Algorithms for Constrained Predictive Control", Book edited by: Hitoshi Iba, ISBN: 978-3-902613-19-6, Publisher: I-Tech Education and Publishing, Publishing date: April 2008
- [L4] Mario L. Fravolini, Marco Mammarella, Giampiero Campa, Marcello R. Napolitano and Mario Perhinschi. Book Chapter title: "Machine Vision Algorithms for Autonomous Aerial Refueling for UAVs Using the USAF Refueling Boom Method". Edited in: *INNOVATIONS IN DEFENCE SUPPORT SYSTEMS - 1 Studies in Computational Intelligence*, 2010, Volume 304/2010, 95-138, DOI: 10.1007/978-3-642-14084-6_5 - ISBN 978-3-642-14083-9
- [L5] G. Campa, M. Mammarella, M.L. Fravolini, B. Cukic." Requirements Engineering via Lyapunov Analysis for Adaptive Flight Control Systems", 2010, Book chapter in *ADAPTIVE CONTROL APPROACH FOR SOFTWARE QUALITY IMPROVEMENT* edited by W Eric Wong (University of Texas at Dallas, USA) & Bojan Cukic (West Virginia University, USA) Series on Software Engineering and Knowledge Engineering - Vol. 20 Book chapter title: ISBN is 978-981-4340-91-5 (word scientific book)
- [L6] Gururajan, Srikanth; Rhudy, Matthew; Fravolini, Mario L.; Chao, Haiyang; Napolitano, Marcello R.; Failure Detection and Accommodation Approaches for the Airspeed Sensor on a Small UAV. Book chapter N° 5 in : *Fault Detection: Classification, Techniques and Role in Industrial Systems*, pp.127-188, 2013. Series: *Mechanical Engineering Theory and Applications Engineering Tools, Techniques and Tables*, Nova Science. ISBN: 978-1-62808-999-8.

National Journals

- [Ri1] M.L. Fravolini, A. Ficola, L. Gabrielli, M. La Cava, F. Ghirelli. "Classification of Industrial Products by Image Processing: A systematic approach." *Automazione e Strumentazione*, vol. 47, no 3, 1999, pp. 107-116, Editrice BIAS Sas Milano, Stampato da Cooperativa Grafica Bergamasca, Almenno S. Bartolomeo (BG), IT- ISSN: 0005-1284
- [Ri2] P.Valigi, M.L. Fravolini, A. Ficola, M. Forlucci, C. Sandali, E.Bove, Una nuova Strategia per il controllo di Temperatura di reattori batch, *Automazione e Strumentazione*, Novembre 2003, Bias Group Srl - Cinisello Balsamo (MI), Stampato da: Sate, Zingonia Verzellino (BG), IT- ISSN: 0005-1284.
- [Ri3] S. Nania, M. L. Fravolini, A. Ficola, M. La Cava," Sensori Virtuali per la conduzione "Fault Tolerant" di Sistemi Dinamici", *Automazione e Strumentazione*, Gennaio 2005, pp. 94-101, Bias Group Srl - Cinisello Balsamo (MI), Stampato da: Sate, Zingonia Verzellino (BG), IT- ISSN: 0005-1284

International Conferences

- [C1] A.Ferroni, M.L. Fravolini, A. Ficola, M. La Cava, " Modeling of the leavening process in a continuous bread-making industrial plant ", Proc. of the 1st. IFAC Workshop on Manufacturing Systems: Manufacturing Modeling Management and Control (MIM'97), Vienna Austria 3-5 Febbraio 1997, pp. 501-506. ISBN:0080426166
- [C2] A.Ferroni, M.L. Fravolini, A. Ficola, M. La Cava, " Modeling Identification and Control of a bread making industrial plant: a soft computing approach ", Proc. of 16th IASTED International Conference on Modeling, Identification and Control, Innsbruck Austria 17-19 Febbraio 1997, pp. 225-229, Acta Press Calgary, Canada.
- [C3] M.L. Fravolini, A.Ferroni, A. Ficola, M. La Cava, "Neural networks for modeling and identification of the dough rising process inside an industrial Proofing chamber", Proc. of IEEE International Conference on Neural Networks (ICNN'97) Houston USA 9-12 Giugno 1997, vol. 1, pp. 127-132, ISBN: 0-7803-4122-8, DOI: 10.1109/ICNN.1997.611650.
- [C4] A. Brunozzi, A. Ficola, M.L. Fravolini, M. La Cava, " Genetic Algorithms for the optimal design of an articulated structures", Proc. of the IASTED International Conference on Modeling Simulation and Optimization (Mso'97), Singapore Malesia 11-13 Agosto 1997, pp. 41-46, Acta Press Calgary, Canada. ISBN: 0889862362.

- [C5] A. Brunozi, A. Ficola, M.L. Fravolini, M. La Cava, "Genetic search in the optimal design of articulated manipulators", Proc. of 2th International Symposium on Intelligent Industrial Automation (IAA '97), Nimes Francia 17-19 Settembre 1997, pp. 87-93, ICSC Academic Press, Canada.
- [C6] M.L. Fravolini, A. Ficola, M. La Cava, "Decentralized optimal actuators placement on large flexible structures using evolutionary computing", International Conference on Mathematical Theory of Networks and Systems (MTNS 98), Padova 6-10 Luglio 1998, sezione FA6, Editore Grafiche TPM- Srl. Padova. ISBN: 88-7115-117-8
- [C7] M.L. Fravolini, M. La Cava, "Time optimal switching commands by adaptive genetic algorithms", Proc. of IEEE International Conference on Control Applications (CCA' 98), Trieste 1-4 Settembre 1998, vol. 2, pp. 827-831. ISBN: 0-7803-4104-X, DOI: 10.1109/CCA.1998.721574.
- [C8] M.L. Fravolini, A. Ficola, M. La Cava, A. L. Materazzi, "Strategie Evolutive per la collocazione ottima di attuatori e sensori per il controllo attivo di strutture flessibili sottoposte all' azione del vento", Proc. of IN-VENTO 98, Perugia 13-15 Settembre 1998, pp.195-206, Tipografia Esagrafica srl Roma.
- [C9] M.L. Fravolini, A. Ficola, M. La Cava, A. L. Materazzi, "Un controlllore robusto H_∞ per strutture flessibili sottoposte all' azione del vento in presenza di incertezze di modellazione", Proc. of IN-VENTO 98, Perugia, 13-15 Settembre 1998, pp. 187-194, Tipografia Esagrafica srl Roma.
- [C10] S. Messina, B. Palumbo, A. Rulli, I. Palumbo, M.P. Leogrande, M. L. Fravolini, R. Palumbo. "Radiolocalizzazione intraoperatoria con una sonda portatile del linfonodo sentinella nel carcinoma mammario: metodologia ed indicazioni cliniche" Proc. Convegno Nazionale congiunto delle Associazioni di Fisica in Medicina e dell' Associazione italiana di radioprotezione "Radiazioni in Medicina: Tecnologie innovative, criteri di qualità, dosi di riferimento", Gubbio 16-18 Sett. 1998, pp. 78-82.
- [C11] M.L. Fravolini, A. Ficola, L. Gabrielli, M. La Cava, F. Ghirelli, "Un efficiente classificatore neurale per immagini complesse mediante preelaborazione con analisi delle componenti principali", Proc. Conference AUTOMAZIONE '98, Milano 24-25 Novembre 1998, pp. 620-629, FAST Federazione delle Associazioni Scientifiche e Tecniche - Milano
- [C12] M.L. Fravolini, M. La Cava, "Evolutionary algorithms for the optimal control of multi inputs dynamic systems", Proc. of 18th IASTED International Conference on Modelling Identification and Control, Innsbruck Austria 15-18 Febbraio 1999, pp. 301-304, Acta Press Calgary, ISBN 0-88986-239-7.
- [C13] A. Brunozi A. Ficola M.L. Fravolini M. La Cava. "Robust disturbance rejection by Fuzzy Evolutionary approach", Proc. International Conference on Computational Intelligence for Modelling, Control and Automation (CIMCA'99), Vienna Austria 17-19 Febbraio 1999, pp. 154-159, IOS Press Amsterdam. ISBN: 90 5199 475 3.
- [C14] M.L. Fravolini A. Ficola M. La Cava A. L. Materazzi, "Hierarchical evolutionary algorithms for the design of active control systems for wind exposed flexible structures". Proc. 4th International Conference on Structural Dynamic (Eurodyn'99), Praga Cecoslovacchia 7-10 Giugno 1999, vol. 2, pp. 1057-1062, Editore A.A Balkema Rotterdam. . ISBN: 9058090574.
- [C15] C. Anile, M.L. Fravolini, A. Ficola, M. La Cava. "A Dynamic Model of the Cerebrospinal Fluid System for the Study of Hydrocephalus", Proc. European Control Conference ECC'99, Karlsruhe Germania 31 Agosto - 3 Settembre 1999. pp. 1-6. ISBN: 0-08-04324-84.
- [C16] M.L. Fravolini, M. La Cava. "Evolutionary Algorithms for adaptive predictive control", Proc. IEEE International Conference on Emerging Technologies and Factory Automation (ETFA' 99), Barcelona Spagna 18-22 Ottobre 1999, vol.1, pp. 55-61. ISBN: 0-7803-5670-5, DOI: 10.1109/ETFA.1999.815338
- [C17] M.L. Fravolini A. Ficola M. La Cava, "Improving Trajectory Tracking by Feedforward Evolutionary Multivariable Constrained Optimization". Proc. IEEE/ASME International Conference on Advanced Intelligent Mechatronics AIM' 99, Atlanta, USA, 19-22 Settembre 1999, pp. 985-990. ISBN: 0-7803-5038-3, DOI: 10.1109/AIM.1999.803306.
- [C18] M.L. Fravolini, B. Palumbo, L. Parnetti, "Essential variables for an automatic neural classifier in Alzheimer' s disease and Age-Associated Memory Impairment". Proc European Association Nuclear Medicine (EANM) Congress, Barcelona Spagna 9-13 Ottobre 1999, also in in Eur. J. Nucl. Med 1999, 26 (9), PS 497, p.1177.)
- [C19] M.L. Fravolini A. Ficola M. La Cava, "Un Controllore Intelligente predittivo per il controllo di Camere Climatiche" Proc. Conference AUTOMAZIONE '99, Roma Novembre 1999.
- [C20] M.L. Fravolini A. Ficola M. La Cava, "Vibration Reduction by Predictive Evolutionary Trajectory Shaping", IEEE 38th Conference on decision and control, Phoenix USA 7-10 Dicembre 1999. vol.5. pp. 5289-5281. ISBN: 0-7803-5250-5, DOI: 10.1109/CDC.1999.833395.
- [C21] M.L. Fravolini, A. Ficola, M. La Cava, M. Giofrè, "Sistemi di Controllo Attivo delle Vibrazioni indotte dal Vento per L' antenna dell' Università di Perugia", Convegno Nazionale In-vento 2000, Genova, 18-21 Giugno 2000, pp. 511-518.
- [C22] M.L. Fravolini A. Ficola M. La Cava, "Intermittent feedback strategies for the predictive control of a flexible link: experimental results", Proc. 6th IFAC Symposium on Robot Control, Syroco 2000 Vienna Austria 21-23 Sett.2000, pp.391-396. ISBN: 0-080-43561-0.

- [C23] Anile C., Ficola A., Fravolini M.L., La Cava M, Maira G. Mangiola-A “A. Pathogenesis of hydrocephalus: a new hypothesis based on dynamic model of intracranial system” , Eleventh International Symposium on INTRACRANIAL PRESSURE and BRAIN MONITORING, 22-27 Luglio 2000, Cambridge, UK. Springer Verlag, ISBN: 3211837760.
- [C24] Anile-C, Ficola-A, Fravolini M.L., La Cava-M, Maira-G, Mangiola-A, Marchese-E: ., ICP and CBF regulation: effect of the decompressive craniectomy” , Eleventh International Symposium on INTRACRANIAL PRESSURE and BRAIN MONITORING, 22-27 Luglio 2000, Cambridge, UK. Springer Verlag, ISBN: 3211837760.
- [C25] Anile-C, Ficola-A, Fravolini M.L., La Cava-M, Maira-G, Mangiola-A, “A ICP and CBF regulation: a new hypothesis to explain the “windkessel” phenomenon” , Eleventh International Symposium on INTRACRANIAL PRESSURE and BRAIN MONITORING, 22-27 Luglio 2000, Cambridge, UK. Springer Verlag, ISBN: 3211837760.
- [C26] Anile-C, Ficola-A, Fravolini M.L., La Cava-M, Maira-G, Mangiola-A “ ICP and CBF regulation: a new hypothesis to explain the intracranial circulatory arrest” , Eleventh International Symposium on INTRACRANIAL PRESSURE and BRAIN MONITORING, 22-27 Luglio 2000, Cambridge, UK. Springer Verlag, ISBN: 3211837760.
- [C27] M.L. Fravolini A. Ficola M. La Cava, “Experimental Evaluation of Evolutionary Predictive Input Shaping applied to a Flexible Structure” , Proc. IEEE/ASME Int Conf. on Advanced Intelligent Mechatronics Como 8-11 Luglio 2001, vol. 2, pp. 719-724. ISBN: 0-7803-6736-7, DOI: 10.1109/AIM.2001.936755.
- [C28] M.L. Fravolini, G. Campa, M. Napolitano, “Minimal Resource Allocating Networks for Aircraft SFDIA” , Proc. IEEE/ASME Int. Conf. on Advanced Intelligent Mechatronics, Como 8-11 Luglio 2001, vol.2 pp. 1251-1256. ISBN: 0-7803-6736-7, DOI: 10.1109/AIM.2001.936897
- [C29] M.L. Fravolini, G. Campa, M. Napolitano, “ A neural network based tool for modeling and simulation of aircraft SFDIA “ , Proc. IASTED International Conference on Modelling and Simulation, Pittsburg, USA 2001, Acta Press Calgary, Canada. ISBN: 088986277X.
- [C30] M.L. Fravolini, A. Ficola, M. La Cava, “Tecniche di controllo attivo di strutture flessibili” Atti Workshop: Problemi di vibrazioni nelle strutture civili e nelle costruzioni meccaniche, Perugia 12 Ottobre 2001, pp. 151-159.
- [C31] M.L. Fravolini A. Ficola M. La Cava, “ Fatigue-mitigating controller design for a slender flexible antenna ” , Proc. European Control Conference 2001(ECC’ 01), Porto, Portogallo, 4-7 Settembre 2001, pp. 96-101. ISBN: 972-752-047-2.
- [C32] G. Campa, M.L. Fravolini, M.R. Napolitano, "Extended Minimal Resource Allocating Networks for Aircraft SFDIA", Proc. Artificial Neural Networks in Engineering, (ANNIE 2001), 4-7 Novembre 2001, USA, pp.595-600. ASME Press. ISBN: 0791801764
- [C33] G. Campa, M.L. Fravolini, M.R. Napolitano, B. Seanor, “Neural Networks-Based Sensor Validation for the Flight Control System of a B777 Research Model” Proc. American Control Conf., 2002, 8-10 Maggio 2002, Anchorage, USA, vol. 1 pp. 412-417. ISSN:0743-1619, ISBN: 0-7803-7298-0; DOI: 10.1109/ACC.2002.1024840.
- [C34] G. Campa, M.R. Napolitano, B. Seanor, M.L. Fravolini, Y.Song “Application of an Improved LWR Method to Real-Time Aircraft Parameter Identification Problems” , Proc. American Control Conf, 8-10 Maggio 2002, Anchorage, USA, vol.1 pp.197-202. ISSN:0743-1619, ISBN: 0-7803-7298-0DOI: 10.1109/ACC.2002.1024803.
- [C35] M.G. Perhinschi, M. Lando, L. Massotti, G. Campa, M.R. Napolitano, M.L. Fravolini, "Online Parameter Estimation Issues for the NASA IFCS F-15 Fault Tolerant Systems", Proc. American Control Conference 2002, 8-10 Maggio 2002, Anchorage, USA, vol. 1 pp. 191-196. ISSN:0743-1619, ISBN: 0-7803-7298-0.
- [C36] M.L. Fravolini, G. Campa, M.R. Napolitano, M. La Cava, "Comparison of Different Growing Radial Basis Functions Algorithms for Control Systems Applications" Proc. American Control Conf., 8-10 Maggio 2002, Anchorage, USA, vol. 2 pp. 957-962. ISSN: 0743-1619, ISBN: 0-7803-7298-0; DOI: 10.1109/ACC.2002.1023141.
- [C37] M.G. Perhinschi, G. Campa, M.R. Napolitano, M. Lando, L.Massotti, M.L. Fravolini, "Modeling and Simulation of Failures for Primary Control Surfaces", Proc. AIAA Guidance Navigation and Control Conf. 8-10 Agosto 2002, Monterey, USA. eISBN: 978-1-62410-121-2 , DOI: 10.2514/6.2002-4786.
- [C38] M.G. Perhinschi, G. Campa, M. R. Napolitano, M. Lando, Luca Massotti, M.L. Fravolini, "A Simulation Tool for On-line Real-Time Parameter Identification", Proc. AIAA Guidance Navigation and Control Conf. 8-10 Agosto 2002, Monterey, USA. eISBN: 978-1-62410-121-2 , DOI: 10.2514/6.2002-4685.
- [C39] S. Wan, G. Campa, M.R. Napolitano, M.L. Fravolini, “On-line Learning RBF Neural Networks for Sensor Validation” , Proc. AIAA Guidance Navigation and Control Conference 2002, 8-10 Agosto 2002, Monterey, USA, AIAA paper 2002-4996. eISBN: 978-1-62410-108-3, DOI: 10.2514/6.2002-4996.
- [C40] G. Campa, M.L. Fravolini, M.R. Napolitano, "A Library of Adaptive Neural Networks for Control Purposes", Proc. IEEE Int.Symposium on Computer Aided Control System Design, 18-20 Settembre 2002, Glasgow, Scotland, UK, pp.115-120. ISBN: 0-7803-7388-X, DOI: 10.1109/CACSD.2002.1036939.
- [C41] P.Valigi, M.L. Fravolini, A. Ficola, M. Forlucci, C. Sandali, E.Bove, Sperimentazione di una nuova strategia per di controllo di temperatura di reattori, Proc. Conference L’ automazione nei nuovi scenari globalizzati, Milano 19-21 Novembre 2002. FAST
- [C42] M. Perhinschi, M.R. Napolitano, G. Campa, M.L. Fravolini, J. Burken, L. Massotti, M.Lando, “Augmentation of a Non Linear Dynamic Inversion Scheme within the NASA IFCS F-15 WVU Simulator” , Proc. American Control

- Conference 2003, 4-6 Giugno 2003, Denver, USA, vol.2 pp.1667-1672. ISSN:0743-1619 ISBN: 0-7803-7896-2. DOI:10.1109/ACC.2003.1239833
- [C43] M.G. Perhinschi, G. Campa, M.R. Napolitano, M.L. Fravolini, J. Burken, M. Lando, L. Massotti, "Performance Comparison of Fault Tolerant Control Laws within the NASA IFCS F-15 WVU Simulator ", Proc. American Control Conference 2003, 4-6 Giugno 2003, Denver, USA, vol.2 pp.1661-1666. ISSN:0743-1619, ISBN: 0-7803-7896-2 , DOI: 10.1109/ACC.2003.1239831.
- [C44] M.L. Fravolini, A. Ficola, M.R. Napolitano G. Campa, M.G. Perhinschi, "Development of modelling and control tools for aerial refuelling for UAV' s" , Proc AIAA Guidance Navigation and Control Conf. 2003, 11-13 Agosto 2003, Austin. USA. eISBN: 978-1-62410-090-1, DOI: 10.2514/6.2003-5798.
- [C45] M.G. Perhinschi, M. R. Napolitano, G. Campa, M.L. Fravolini, "Primary control surface failure detection and identification scheme" , Proc. AIAA Guidance Navigation and Control Conference, 11-13 Agosto 2003 , Austin, USA. eISBN: 978-1-62410-090-1 , DOI: 10.2514/6.2003-5645.
- [C46] M.G. Perhinschi, M. R. Napolitano, G. Campa, M.L. Fravolini, " Integration of fault tolerant system for sensor and actuator failures within the WVU NASA F-15 simulator" , Proc. AIAA Guidance Nav.Control Conf. 2003, 11-13 Agosto, Austin, Texas, USA. eISBN: 978-1-62410-090-1 , DOI: 10.2514/6.2003-5644.
- [C47] M. Perhinschi, M. Napolitano and G. Campa, M.L. Fravolini, "A Simulation Environment for Testing and Research of Neurally Augmented Fault Tolerant Control Laws Based on Non-Linear Dynamic Inversion" , AIAA Modeling and Simulation Technologies Conference and Exhibit, Providence, Rhode Island, Aug. 16-19, 2004, AIAA-2004-4913, eISBN: 978-1-62410-074-1, DOI: 10.2514/6.2004-4913.
- [C48] G. Campa, B. M.L. Fravolini, A. Ficola, M.R. Napolitano, B. Seanor and M. Perhinschi, "Autonomous Aerial Refueling for UAVs Using a Combined GPS-Machine Vision Guidance" , AIAA Guidance, Navigation, and Control Conference and Exhibit, Providence, Rhode Island, Aug. 16-19, 2004, AIAA-2004-5350. eISBN: 978-1-62410-073-4, DOI: 10.2514/6.2004-5350.
- [C49] G. Campa, M.L. Fravolini, M.R. Napolitano, M.G. Perhinschi, M. Battipede, "A Stochastically Optimal Feedforward and Feedback Technique for Flight Control Systems of High Performance Aircrafts" , American Control Conf. 2004, June30-July2, 2004, Boston, vol. 2 pp. 1713 - 1718. ISSN :0743-1619. ISBN: 0-7803-8335-4
- [C50] M.G. Perhinschi, J. Burken, M.R. Napolitano, G. Campa, M. L. Fravolini, "Performance Comparison of Different Neural Augmentation for the NASA Gen_2 IFCS F-15 Control Laws" , American Control Conference 2004, June30-July2, 2004, vol. 4 pp. 3180 - 3184. ISSN:0743-1619. ISBN: 0-7803-8335-4
- [C51] S. Nania, M. L. Fravolini, A. Ficola, M. La Cava," Impiego di Sensori Virtuali per la conduzione "Fault Tolerant" di Sistemi Dinamici" , Proc. 48° Convegno ANIPLA 2004, Milano, 14-15 Sett. 2004
- [C52] M.G Perhinschi; M. Napolitano, G. Campa, H. E. Burke, R. Larson, J. Burken, M.L. Fravolini, Design and Testing of a Safety Monitor Scheme on the NASA Gen 2 IFCS F-15 Flight Simulator AIAA 1st Intelligent Systems Technical Conference; Chicago, IL; USA; 20-22 Sept. 2004. pp. 1-10. eISBN:978-1-62410-080-2, DOI:10.2514/6.2004-6284.
- [C53] A. Ficola, M. L. Fravolini, M. La Cava , Applicazione di Tecniche di Eliminazione per la Diagnosi dei Guasti per Sistemi Non Lineari, Napoli 23-25, Novembre 2005
- [C54] G. Campa, M. Mammarella, M.R. Napolitano, M.L. Fravolini, L. Pollini, Brian Stolarik "A comparison of Pose Estimation algorithms for Machine Vision based Aerial Refueling for UAVs" , Mediteranean Control Conference 06, Ancona, Italy, 28-30 June 2006, pp. 1-6. ISBN: 0-9786720-1-1, DOI: 10.1109/MED.2006.328769
- [C55] M.L. Fravolini, V. Brunori, A. Ficola, M. La Cava, G. Campa, M.R. Napolitano, "Feature Matching Algorithms for Machine Vision Based Autonomous Aerial Refueling" , Mediteranean Control Conference 06, Ancona, Italy, 28-30 June 2006, pp. 1-6. ISBN: 0-9786720-1-1, DOI: 10.1109/MED.2006.328792.
- [C56] M.L. Fravolini, V. Brunori, A. Ficola, M. La Cava, G. Campa, M.R. Napolitano A simple control scheme for Mini Unmanned Aerial Vehicles, Mediteranean Control Conference 06, Ancona, Italy, 28-30 June 2006, pp. 1-6. ISBN: 0-9786720-1-1, DOI: 10.1109/MED.2006.328768.
- [C57] M.L. Fravolini, G Campa, M. Napolitano, Design of Redundancy Relations for Unmanned Aerial Vehicle FDI.AIAA Guidance, Navigation and Control Conference and Exhibit, Honolulu, Hawaii, Aug. 18-21, AIAA-2008-6778. eISBN: 978-1-60086-999-0 , DOI: 10.2514/6.2008-7421.
- [C58]M. Mammarella,G. Campa, M.L. Fravolini, Y. Gu, B. Seanor, M.R.Napolitano, "A Comparison of Optical Flow algorithms for Real Time Aircraft Guidance and Navigation", *AIAA Guidance, Navigation and Control Conference and Exhibit*, Honolulu, Hawaii, Aug. 18-21, 2008, paper AIAA-2008-7494. eISBN: 978-1-60086-999-0, DOI: 10.2514/6.2008-7494.
- [C59]M. Mammarella, G. Campa, M. Napolitano,B. Seanor, M.L. Fravolini, L. Pollini, GPS / MV Based Aerial Refueling for UAVs, AIAA Guidance, Navigation and Control Conference and Exhibit, Honolulu, Hawaii, Aug. 18-21, 2008, paper AIAA-2008-7258. eISBN: 978-1-60086-999-0, DOI: 10.2514/6.2008-7258.
- [C60]G Campa, M. Mammarella, B. Cukic, Yu Gu, M.R. Napolitano, E. Fuller, M.L. Fravolini: Calculation of Bounding Sets for Neural Network Based Adaptive Control Systems. AIAA Guidance, Navigation and Control Conference and Exhibit, Honolulu, Hawaii, Aug. 18-21, 2008, AIAA-2008-6778, eISBN: 978-1-60086-999-0, DOI: 10.2514/6.2008-6778.

- [C61]M. Mammarella G. Campa, M.L. Fravolini, Y. Gu, B. Seanor; M. Napolitano S. Sanchez, M. Perhinschi, H. Moncayo, M. Napolitano, J. Davis, M. Fravolini. In-Flight Actuator Failure Detection and Identification for a Reduced Size UAV Using the Artificial Immune System Approach. AIAA Guidance, Navigation, and Control Conference, Chicago, Illinois, Aug. 10-13, 2009, AIAA-paper: 2009-6266. eISBN: 978-1-60086-978-5, DOI: 10.2514/6.2009-6266.
- [C62]Kerri Phillips, Giampiero Campa, Srikanth Gururajan, Brad Seanor, Marcello Napolitano, Yu Gu, M. Fravolini, Parameter Identification for Application Within a Fault-Tolerant Flight Control System, AIAA Atmospheric Flight Mechanics Conference, Chicago, Illinois, Aug. 10-13, 2009, AIAA-paper: 2009-5723. eISBN: 978-1-62410-132-8, DOI: 10.2514/6.2009-5723.
- [C63]M.L. Fravolini, S. Fiani, G. Campa, "LMI-based design of a Neuro-Adaptive augmentation controller for an Unmanned Aerial Vehicle" , *The 7th IFAC Symposium on Intelligent Autonomous Vehicles 2010*, Lecce, Italy, 6-8 Sep. 2010, vol. 7 part-1. DOI: 10.3182/20100906-3-IT-2019.00051, ISSN: 1474-6670.
- [C64]S. Fiani, M.L. Fravolini, "A Robust Monocular Visual Odometry Algorithm for Autonomous Robot Application" , *The 7th IFAC Symposium on Intelligent Autonomous Vehicles 2010*, Lecce, Italy, 6-8 Sep. 2010, vol. 7 part-1. DOI: 10.3182/20100906-3-IT-2019.00095, ISSN: 1474-6670.
- [C65]I. Vukman, F. Mailland, A. Ficola, M.L. Fravolini, V. Brunori. "Nemo: An advanced cross-application vision-based GNC SW platform and simulator" , *61st International Astronautical Congress 2010 (IAC 2011)*, Prague, Czech, 27 Sep. - 1 Oct. 2010, pp.8459-8474, code IAC-10.C1.7.10 (paper id: 0834). ISBN: 978-1-61782-368-8. (abstract)
- [C66]M.L. Fravolini, A. Moschitta, S Fiani, "Component-wise bounds for uncertain MIMO control systems with finite level quantizers" , *IMEKO TC4 International Workshop on ADC Modelling, Testing and Data Converter Analysis and Design 2011 (IWADC 2011) and IEEE 2011 ADC Forum*, Orvieto, Italy, 30 June - 1 July 2011, pp 92-99. ISBN: 978-1-61839-279-4.
- [C67]M. Fravolini, G. Campa, "LMI-Based Boundedness Analysis of Neuro-Adaptive Controllers" , *IEEE American Control Conference (ACC) 2012*, Montreal, Canada, 27-29 June 2012, pp. 6400-6405. ISSN:0743-1619. ISBN: 978-1-4577-1095-7
- [C68]M. Ricci, A. Ficola, M.L. Fravolini, L. Battaglini, V. Brunori, A. Palazzi, M. Pastorelli, P. Burrascano, P. Valigi , L. Appolloni, S.Cervo, C. Rocchi, "Machine Vision and Magnetic Imaging NDT for the On-Line Inspection of Cold-Rolled Stainless Steel" , *IEEE Conference on Imaging Systems and Techniques*, Manchester, England, 16-17 July 2012, DOI: 10.1109/IST.2012.6295531, ISBN: 978-1-4577-1776-5.
- [C69]Moschitta A., Fravolini M.L., Carbone P., Tissi F., "Practical implementation issues in detecting voltage dips" , *IEEE Instrumentation and Measurement Technology Conference (I2MTC)*, Graz, Aus., 13-16 May 2012, pp. 159-164, DOI:10.1109/I2MTC.2012.6229709, ISBN: 978-1-4577-1773-4. ISSN:1091-5281.
- [C70]M.L. Fravolini, M. Pastorelli, S. Pagnottelli, P. Valigi, S. Gururajan, H. Chao, M.R. Napolitano, "Model-Based approaches for the Airspeed Estimation and Fault Monitoring of an Unmanned Aerial Vehicle" , *IEEE Workshop on Environmental, Energy, and Structural Monitoring Systems (EESMS) 2012*, Perugia, Italy, 28 Sept. 2012, pp. 18-23. DOI: 10.1109/EESMS.2012.6348401
- [C71]Moschitta A., Fravolini M.L., Carbone P., Tissi F., "Realizzazione di sistemi per il rilevamento di buchi di tensione" , *Atti XXIX Congresso Nazionale Gruppo Misure Elettriche ed Elettroniche - GMEE 2012*, 2-5 Sep. 2012, Monopoli, Italy.
- [C72]Velasquez, A.F., Luckett, J., Napolitano, M., Marani, G., Evans, T., Fravolini, M.L., "Experimental Evaluation of a Machine Vision Based Pose Estimation System for Autonomous Capture of Satellites with Interface Rings" , *AIAA Guidance, Navigation, and Control Conference (GNC) 2013*, Boston, USA, 19-22 Aug. 2013. DOI: 10.2514/6.2013-4758. ISBN: 978-162410224-0.
- [C73]Fravolini, M.L., S. Gururajan, G. De Angelis, Moschitta, A., Chao, H., Napolitano, M.R., "UAV Analytical Redundancy based fault detection of the Airspeed Sensor via Generalized Likelihood Ratio Test" , *AIAA Guidance, Navigation, and Control Conference (GNC) 2013*, Boston, USA, 19-22 Aug. 2013. DOI: 10.2514/6.2013-4617, ISBN: 978-162410224-0.
- [C74]Gururajan S., Fravolini M.L. C. Haiyang, R. Matthew; Napolitano, M.R., "Performance evaluation of neural network based approaches for airspeed Sensor Failure Accommodation on a small UAV" , *IEEE 21th Mediterranean Conference on Control and Automation (MED) 2013*, Chania, 25-28 June 2013, pp. 603-608. DOI: 10.1109/MED.2013.6608784, ISBN: 978-1-4799-0995-7.
- [C75]Chao H., Gu Y., Gross J., Guo G., Fravolini M.L., Napolitano, M.R., "A comparative study of optical flow and traditional sensors in UAV navigation" , *IEEE American Control Conference (ACC), 2013*, Washington, DC, USA, 17-19 June 2013, pp. 3858-3863. ISSN: 0743-1619; ISBN: 978-1-4799-0177-7
- [C76] I. Neri, R. Centonze, M.L. Fravolini, A. Moschitta., "A simple ranging technique based on received signal strength measurements in a narrowband 2.4 GHz channel: A space diversity approach" , *IEEE International Workshop on Measurements and Networking Proceedings*, Naples, Italy, 7-8 Oct. 2013, pp. 189-194, 2013. DOI: 10.1109/IWMN.2013.6663801, ISBN: 978-1-4673-2873-9.

- [C77] Gururajan, S., Fravolini, M., Rhudy, M., Moschitta, A. et al., "Evaluation of Sensor Failure Detection, Identification and Accommodation (SFDIA) Performance Following Common-Mode Failures of Pitot Tubes," SAE Technical Paper 2014-01-2164, 2014, doi:10.4271/2014-01-2164.
- [C78] Costante G., Galieni V., Yan Y., Fravolini M. L., Ricci E., Valigi P., "Exploiting transfer learning for personalized view invariant gesture recognition, Acoustics" , *Speech and Signal Processing (ICASSP)* , 2014 *IEEE International Conference on*, Florence, Italy, 4-9 May 2014, pp. 1250-1254, DOI: 10.1109/ICASSP.2014.6853797, ISSN: 15206149.
- [C79] Fravolini, M.L., Yucelen T., Campa G., "Performance verification of low-frequency learning adaptive controllers" , *IEEE American Control Conference (ACC) 2014*, Portland, OR, USA, 4-6 June 2014, pp. 5091-5096. DOI:10.1109/ACC.2014.6858667, ISSN: 0743-1619 10.1109/ACC.2014.6858667.
- [C80] V. Pasku, M.L Fravolini, A Moschitta, "RF ranging based on space diversity techniques and directive antennas" , *20th IMEKO TC4 International Symposium and 18th International Workshop on ADC Modelling and Testing Research on Electric and Electronic Measurement for the Economic Upturn*, Benevento, Italy, Sept. 15-17, 2014, pp. 802-806. ISBN: 978-929900732-7.
- [C81] M.F. Fravolini, T. Yucelen. A. Albattat, D. Wagner, P. Valigi, "Verifiable Frequency-Limited Adaptive Control Performance Based on Linear Matrix Inequalities" , *IEEE Conference on Decision and Control (CDC) 2014*, Los Angeles, CA, USA, 15-17 Dec. 2014, pp. 6641-6646. DOI:10.1109/CDC.2014.7040431, ISBN: 978-1-4799-7746-8.
- [C82] M.L. Fravolini, T. Yucelen, B.C. Gruenwald, N.T. Nguyen, and W. Daniel., "A Design, Analysis and Verification Framework for Adaptive Flight Control" , *AIAA Guidance Navigation and Control Conference (GNC) 2015*, Kissimmee, Florida, USA, 5-9 Jan. 2015. DOI: 10.2514/6.2015-0611.
- [C83] B.C. Gruenwald, T. Yucelen, M.L. Fravolini, "Performance Oriented Adaptive Architectures with Guaranteed Bounds" , *AIAA Guidance Navigation and Control Conference (GNC) 2015*, Kissimmee, Florida, USA, 5-9 Jan. 2015, USA. DOI:10.2514/6.2015-0120.
- [C84] M.L. Fravolini, T. Yucelen, J. Muse and P. "Analysis and design of adaptive control systems with unmodeled input dynamics via multiobjective convex optimization", *IEEE American Control Conference (ACC) 2015*, Chicago, IL, USA, July 2015. DOI: 10.1109/ACC.2015.7170958.
- [C85] Fravolini ML, Yucelen T, Moschitta A, Gruenwald B. A Non-Conservative Approach for the Estimation of the Region of Operation of Uncertain Adaptive Control Systems. In ASME 2015 Dynamic Systems and Control Conference 2015 Oct 28. Paper No. DSCC2015-9665, pp. V001T01A002; 10 pages. doi:10.1115/DSCC2015-9665
- [C86] Pasku V, Fravolini ML, Moschitta A. "Effects of antenna directivity on a 2.5 D positioning technique based on multiple RF transceivers". In Measurements & Networking (M&N), 2015 IEEE International Workshop on, Oct 12 (pp. 1-5). DOI: 10.1109/IWMN.2015.7322976.
- [C87] M.L. Fravolini, T. Yucelen, B.C. Gruenwald, D. Wagner and M. R. Napolitano, "Comparison of Robust and Probabilistic LMI-Based Design of Adaptive Flight Controllers with Uncertain Input Dynamics", *AIAA Guidance, Navigation, and Control Conference, AIAA SciTech Forum, (AIAA 2016-1381)* <https://doi.org/10.2514/6.2016-138>, San Diego, California, USA. 2016.
- [C88] Fravolini, M.L., Ficola, A., Radicioni, F., Yucelen, T., Arabi, E. "Validation of adaptive control laws using optimization and trajectory sensitivity", (2017), *IEEE Proc. of the American Control Conference*, May 24 - 26, 2017, Seattle, USA, pp. 5065-5070. DOI: 10.23919/ACC.2017.7963740
- [C89] Arabi, E., Gruenwald, B.C., Yucelen, T., Fravolini, M., Nguyen, N.T., Model reference neuroadaptive control revisited: How to keep the system trajectories on a given compact set, *AIAA Guidance, Navigation, and Control Conference, AIAA SciTech Forum, Grapevine, Texas. (AIAA 2017-1714)*. DOI: doi.org/10.2514/6.2017-1714.
- [C90] Cascianelli, S., Costante, G., Bellocchio, E., Valigi, P., Fravolini, M.L., Ciarfuglia, T.A., A robust semi-semantic approach for visual localization in urban environment, (2016) *IEEE 2nd International Smart Cities Conference: Improving the Citizens Quality of Life*, 12-15 Sept. 2016, Trento, Italy, DOI: 10.1109/ISC2.2016.7580799.
- [C91] Cascianelli, S., Bello-Cerezo, R., Bianconi, F., Fravolini, M.L., Belal, M., Palumbo, B., Kather, J.N. Dimensionality reduction strategies for CNN-based classification of histopathological images, (2018) *Smart Innovation, Systems and Technologies Conference*76, pp. 21-30.
DOI: 10.1007/978-3-319-59480-4_3
- [C92] Bello-Cerezo, R., Bianconi, F., Cascianelli, S., Fravolini, M.L., Di Maria, F., Smeraldi, F. Hand-designed local image descriptors vs. Off-the-shelf CNN-based features for texture classification: An experimental comparison, (2018) *Smart Innovation, Systems and Technologies Conf.* , 76, pp. 1-10.
DOI: 10.1007/978-3-319-59480-4_1
- [C93] Fravolini, Mario L; Arabi, Ehsan; Yucelen, Tansel; "A model reference adaptive control approach for uncertain dynamical systems with strict component-wise performance guarantees"; 2018 *AIAA Guidance, Navigation, and Control Conference*, 1572, 2018.

- [C94] Abdollahyan, Maryam; Cascianelli, Silvia; Bellocchio, Enrico; Costante, Gabriele; Ciarfuglia, Thomas A; Bianconi, Francesco; Smeraldi, Fabrizio; Fravolini, Mario L; "Visual localization in the Presence of Appearance Changes Using the Partial Order Kernel"; 26th European Signal Processing Conference (EUSIPCO), roma, Italy, pp. 697-701, 2018.
- [C95] Cascianelli, S; Fravolini, ML; Di Maria, F; Smeraldi, F; "Hand-designed local image descriptors vs. Off-the-shelf CNN-based features for texture classification: An experimental comparison"; 2018
- [C96] Astolfi, D; Castellani, F; Fravolini, ML; Cascianelli, S; Terzi, L; "A SCADA-Based Method for Estimating the Energy Improvement from Wind Turbine Retrofitting"; Conference of the Italian Association for Wind Engineering, pp. 63-72, 2018.
- [C97] Alvarez, Omar Hazbon; Gutierrez Zea, Luis B; Bil, Cees; Napolitano, Marcello; Fravolini, Mario L; "Review of methodologies for aircraft sensors fault detection and correction"; AIAC18: 18th Australian International Aerospace Congress
- [C98] Hazbon, Omar; Gutierrez, Luis; Bil, Cees; Napolitano, Marcello; Fravolini, Mario; "Digital Twin Concept for Aircraft System Failure Detection and Correction"; AIAA Aviation 2019 Forum 2887, 2019.
- [C99] Bianconi, Francesco; Fravolini, Mario Luca; Palumbo, Isabella; Palumbo, Barbara; "Shape and Texture Analysis of Radiomic Data for Computer-Assisted Diagnosis and Prognostication An Overview "; International Conference on Design, Simulation, Manufacturing: The Innovation Exchange", 14-Mar 2019.
- [C100] M. L. Fravolini, S. Cascianelli, F. Crocetti, G. Costante, P. Valigi. "Data-Based Design of Robust Fault Isolation Residuals Using LASSO Optimization", 2019 International Conference on Control, Automation and Diagnosis (ICCAD'19)
- [C101] S. Cascianelli, D. Astolfi, G. Costante, F. Castellani, M.L.Fravolini. Experimental Prediction Intervals for Monitoring Wind Turbines: an Ensemble Approach. 2019 International Conference on Control, Automation and Diagnosis (ICCAD'19)
- [C102] Alvarez, O; GUTIERREZZEA, Luis; BILb, Cees; NAPOLITANO, Marcello; FRAVOLINI, Mario L; "Digital Twin Concept for Aircraft Sensor Failure"; Transdisciplinary Engineering for Complex Socio-technical Systems: Proceedings of the 26th ISTE International Conference on Transdisciplinary Engineering, July 30-August 1, 2019, 10,370,2019.
- [C103] Fravolini, Mario Luca; Cartocci, Nicholas; Dogan, Kadriye Merve; Yucelen, Tansel; "Quantification of Tolerable Parametric and Dynamic Uncertainty for Robust MRAC Systems; AIAA Scitech 2020 Forum 1338 2020.