Curriculum vitae of Stefano Di Gennaro

– 2024.I –

Personal Information

Name	Stefano
Family name	Di Gennaro
Date of birth	July 5, 1963
Nationality	Italian

Contact Information

Permanent address	Via Luigi Mancinelli 25, 00199 – Roma, Italy
Telephone	++39 328 4533787
E.mail	`stefano.digennaro@univaq.it` `stefano.digennaro@libero.it`
Fax	++39 06 233233142
Web page	`http://ing.univaq.it/digennaro`

Education

Philosophy Doctor in System Engineering (from April 1989 to July 1992), University of Rome "La Sapienza". Defense: July 10, 1992

"Laurea" Degree (from November 1983 to November 1987) in Nuclear Engineering, specialization 'Automatic Control', University of Rome "La Sapienza". Defense: November 9, 1987 (summa cum laude). This degree includes the B.Sc. (3 years) and the M.Sc. (2 years) degrees

Academic Positions

Tenured Full Professor: Department of Information Engineering, Computer Science and Mathematics – DISIM (April 3, 2023 – present)

Tenured Associate Professor: Department of Information Engineering, Computer Science and Mathematics – DISIM (July 1, 2012 – March 31, 2023)

Tenured Associate Professor: Department of Electrical and Information Engineering, Enginneering Faculty, University of L'Aquila (November 1, 2005 – June 30, 2012)

Untenured Associate Professor: Department of Electrical and Information Engineering, Engineering Faculty, University of L'Aquila (November 1, 2002 – October 31, 2005)

Tenured Assistant Professor: Department of Electrical Engineering, Enginneering Faculty, University of L'Aquila (October 19, 1993 – October 31, 2002)

Untenured Assistant Professor: Department of Electrical Engineering, Enginneering Faculty, University of L'Aquila (October 19, 1990 – October 18, 1993)

He is also with the **Center of Excellence DEWS** – Design of Embedded controllers, Wireless interconnect and System–on–chip, University of L'Aquila, from 2001 to the present

Member of the National Association SIDRA (Società Italiana dei Docenti e Ricercatori di Automatica), from 2020 to the present

Member of the I–RIM (Istituto di Robotica e Macchine Intelligenti), from 2020 to the present

Affiliated at the CINI National Lab in Artificial Intelligence and Intelligent Systems (AIIS CINI, Consorzio Interuniversitario Nazionale per l'Informatica), from 2020 to the present

National/International Acknowledgements

Italian Scientific Qualification as Full Professor in Automatic Control obtained in 2014

Italian Scientific Qualification as Full Professor in Automatic Control obtained again in 2020

French Scientific Qualification as Full Professor in Automatic Control obtained in 2014 (N. qualification: 14161264005)

Academic Leader at the Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Campus Guadalajara, Jalisco, Mexico, September–October 2008

Best Paper Award for the paper "Super Twisting Sliding Mode Controller for PMSM fed with Multilevel Inverter for E–transportation", Vidhi Patel, Concettina Buccella, Stefano Di Gennaro, Carlo Cecati, 2020 IEEE 9^{th} International Power Electronics and Motion Control Conference (IPEMC2020–ECCE Asia)

Best Contribution Award at the 2020 Automatica.it workshop

Positions in other Institutions

Visiting Fellow at the Department Comb–Mephis of the **ENEA – Casaccia**, from October 1986 to December 1987

Visiting Fellow at the Department of Computer and System Science "Antonio Ruberti" of the **University of Rome "La Sapienza"**, from September 1987 to July 2011

Visiting Fellow/Professor at the **École Supérieure d'Électricité (Supélec)**, Laboratoire des Signaux et Systèmes, C.N.R.S., Paris, France, March–April 1991, July 1993, July 1997, July 1998, from September 2011 to July 2012

Visiting Fellow at the Department of Electrical Engineering, **Princeton University**, U.S.A., from September 1993 to January 1994, and from December 1994 to January 1995

Visiting Fellow at the **Centro de Investigación y Estudios Avanzados del IPN (CINVESTAV)**, Unidad Ciudad de Mexico, D.F., Mexico, from August to September 1993, and November 1994

Visiting Fellow at the Department of Electrical Engineering and Computer Science, **Berkeley University**, from October to November 1998

Visiting Fellow/Professor at the **Centro de Investigación y de Estudios Avanzados del IPN (CINVESTAV)**, Unidad Guadalajara, Jalisco, Mexico, from 1998 to the present (various periods)

Visiting Professor at the **Universidad de Guadalajara**, Centro Universitario de la Ciénega (CUCI), Ocotlán, Jalisco, Mexico, from 2013 to the present (various periods)

Visiting Professor at the **École de Technologie Supérieure (ETS)**, Montréal, Québec, Canada, August 2008, and from July to August 2009

Visiting Professor at the **Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM)**, Campus Guadalajara, Jalisco, Mexico, Departamento de Electrónica y Mecatrónica, September–October 2008

Visiting Professor at the **Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM)**, Campus León, Guanajuato, Mexico, September 2008

Visiting Professor at the **École Nationale Supérieure de l'Electronique et de ses Applications (ENSEA)**, Laboratoire d'Électronique et Commande des Systèmes, Cergy, France, from 2012 to the present (various periods)

Visiting Professor at the **Université de Valenciennes et du Hainaut–Cambrésis (UVHC)**, Laboratory of Industrial and Human Automation, Mechanics and Computer Science (LAMIH), France, May 2012, June 2014, July 2017

Visiting Fellow at the **ENEA – Casaccia RC**, from 2011 to 2015 (multiple visits)

Visiting Fellow at the **ENEA – Frascati RC**, from 2015 to the present (multiple visits)

Teaching Experiences

As Assistant Professor at the University of L'Aquila

Control Systems, from 1990 to 1998 (~30 hrs/year)

Fundaments of Control Systems, from 1998 to 2001 (~30 hrs/year)

Modeling and Control of Environment Systems, from 1995 to 1996 (~30 hrs/year)

As Temporary Lecturer in Italy

Control Systems, University of L'Aquila, Diploma Universitario in Electrical Engineering, from the A.Y. 1994/1995 to the A.Y. 1998/1999 (60 hrs/year)

Systems Theory, University of Cassino, Curriculum in Electronic Engineering, Faculty of Engineering, from the A.Y. 1994/1995 to the A.Y. 1996/1997 (90 hrs/year)

Engineering and Technology of Control Systems, University of L'Aquila, Curriculum in Computer Science and Automatic Control Engineering, from the A.Y. 1998/1999 to the A.Y. 2001/2002 (90 hrs/year)

Hybrid & Embedded System Control and Design, University of L'Aquila, Master Siemens in "Design and Management of Advanced Systems and Devices for Telecommunication", Faculty of Engineering, A.Y. 2004/2005 (30 hrs)

Spacecraft Attitude Control, Master in Aerospace Engineering, Telespazio, Fucino, A.Y. 2001/2002 (10 hrs)

As Associate or Full Professor at the University of L'Aquila

Control Systems, from 2001 to 2004 (~30 hrs/year)

Engineering and Technology of Control Systems, University of L'Aquila, Curriculum in Computer Science and Automatic Control Engineering, from the A.Y. 2002/2003 to the present (90 hrs/year, and 60 hrs/year since the A.Y. 2018/2019)

Nonlinear Systems, University of L'Aquila, Curriculum in Computer Science and Automatic Control Engineering, from the A.Y. 2012/2013 to the present (60 hrs/year)

Control Systems I, University of L'Aquila, Curriculum in Computer Science and Automatic Control Engineering, from the A.Y. 2004/2005 to 2006/2007 (60 hrs/year)

Control Systems, University of L'Aquila, Curriculum in Mathematical Engineering, from the A.Y. 2007/2008 to the A.Y. 2011/2012, and in the A.Y. 2017/2018 (45 hrs/year)

Control Systems and Laboratory, University of L'Aquila, Postgraduate School, from the A.Y. 2000/2001 to the A.Y. 2008/2009 (~24 hrs/year)

Control of Energy Systems, University of L'Aquila, Curriculum in Computer Science and Automatic Control Engineering, from the A.Y. 2021/2022 to the present (20 hrs/year, and 30 hrs/year since the A.Y. 2022/2023)

As Lecturer abroad

Control Engineering, M.Sc. on Electric Engineering, CINVESTAV campus Guadalajara, held at the Nayarit Technological University, August 2006 (40 hrs)

Courses as 'Academic leader' (Error Detection of Hazardous Events in the Air Trafic Control; Mechatronic in Modern Vehicles; Attitude Control of Vehicles; Control Problems for New Generation Vehicles; High Performance Attitude Control of Spacecraft; Digital Control of Induction Motors), B.Sc. on Electrical and Mechatronics Engineering, Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Campus Guadalajara, Jalisco, Mexico, September–October 2008

Courses as 'Academic leader' (Error Detection of Hazardous Events in the Air Trafic Control; Attitude Control of Vehicles), B.Sc. on Electrical and Mechatronics Engineering, Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Campus León, Guanajuato, Mexico, September 2008

Nonlinear Control, M.Sc. in Automatique et Electronique Industrielle (AEI), module "Automatique et Diagnostic", École Nationale Supérieure de l'Électronique et de ses Applications, Cergy–Pontoise, France, November 2019 – January 2020 (28 hrs)

Diagnostic, M.Sc. in Automatique et Electronique Industrielle (AEI), module "Automatique et Diagnostic", École Nationale Supérieure de l'Électronique et de ses Applications, Cergy–Pontoise, France, November 2019 – January 2020 (20 hrs)

Digital Control, M.Sc. in Automatique et Electronique Industrielle (AEI), module "Contrôle des Systèmes Mécatroniques", École Nationale Supérieure de l'Électronique et de ses Applications, Cergy–Pontoise, France, A.Y. 2019/2020 (26 hrs/year), 2020/2021 (26 hrs/year), 2021/2022 (20 hrs/year)

Other Didactic Activities

Tutor at the University of L'Aquila for the course of *Control Systems*, Consorzio Nettuno, from 2001/2002 to 2004/2005

Lecturer in the course of *Systems Theory*, University of Rome "La Sapienza", Curriculum in Electronic Engineering, from 1988/1989 to 1990/1991 (~20 hrs/year)

Lecturer in the course of *Digital Control*, University of Rome "La Sapienza", Curriculum in Electronic Engineering, from 1990/1991 to 1992/1993 (~15 hrs/year)

Lecturer in the course of *Spacecraft Control*, Curriculum in Aerospace Engineering, University of Rome "La Sapienza", from 2005/2006 to 2010/2011 (~10 hrs/year)

Institutional Roles

Institutional Roles as Coordinator of International M.Sc. Courses

Didactic coordinator for the International *M.Sc. Curriculum in Computer and Systems Engineering* (2018–2021)

Didactic coordinator (reelected for the second term) for the International *M.Sc. Curriculum in Computer and Systems Engineering* (2021–2022)

Didactic coordinator for the International *M.Sc. Curriculum in Control Systems and Automation Engineering* (2022–present)

Member of the Department Board at the Department of Information Engineering, Computer Science and Mathematics – DISIM (2012–present)

Didactic coordinator for the International *M.Sc. Curriculum in Computer and Systems Engineering E–PiCo (Electric Vehicle Propulsion & Control)* for double/multiple/common degree (2019–present) (Cf. International Teaching & Project Coordination section)

Member of the Promoting Committee of the new Master Science Course in Control Systems and Automation Engineering (starting in the A.Y. 2022/2023) at the University of L'Aquila

Institutional Roles for Research

Member of the Board of the *Center of Excellence DEWS – Design of Embedded controllers, Wireless interconnect and System–on–chip DEWS*, University of L'Aquila (2005–present)

Coordinator and research leader of the research workpackage on *Automotive* of the Center of Excellence DEWS (2005–present)

Delegate of the Department of Information Engineering, Computer Science and Mathematics (DISIM), University of L'Aquila, for the engineering area for the Founding Committee of the Inter–Departmental *Center for Transports and Sustainable Mobility CITraMS* (2018)

Member of the Technical–Scientific Board of the *Inter–Departmental Center for Transports and Sustainable Mobility CITraMS* at the University of L'Aquila (2019–2002, 2022–present)

Member of the Management Board of the *Research and Training Center for the Seismic Engineering CERFIS* at the University of L'Aquila (2019–present)

Other Institutional Roles in Didactic Boards

Member of the Didactic Board of the *Curriculum in Electrical Engineering, Faculty of Engineering, University of L'Aquila*, from 1991 to 1993

Member of the Didactic Board of the *Curriculum in Electronic Engineering, Faculty of Engineering, University of L'Aquila*, from 1993 to 2012

Member of the Didactic Board of the *Curriculum in Electrical Engineering, Faculty of Engineering, University of L'Aquila*, from 1996 to 2002

Member of the Didactic Board of the *Curriculum in Computer Science and Automatic Engineering, Department of Information Engineering, Computer Science and Mathematics*, University of L'Aquila, from 2007 to the present

Member of the Board of Professors of the Doctorate in *Ingegneria Elettrica e dell'Informazione*, up to 2012

Member of the Board of Professors of the Doctorate in *Information and Communication Technology*, from 2012 to the present

Institutional Roles for Internationalization

Coordinator of the Socrates Exchange Program between the University of *L'Aquila and the Université Paris Sud, France*, from 2005 to 2007

Erasmus Delegate of the University of L'Aquila for the *Faculty of Engineering*, from 2011 to 2012

Erasmus Delegate of the Department of Information Engineering, Computer Science and Mathematics, *University of L'Aquila*, from 2012 to 2015

Erasmus Delegate of the *Curriculum in Information Engineering, Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila*, from 2015 to 2021

Erasmus Delegate of the *Curriculum in Computer Science and Automatic Engineering, Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila*, from 2015 to 2021

Proposer and contact person for the Erasmus agreements with

1. Erasmus+ Inter–institutional agreement 2014–2021 between the University of L'Aquila and the École Nationale Supérieure de l'Electronique et de ses Applications (ENSEA), Cergy, France
2. Erasmus+ Inter–institutional agreement 2014–2020 between the University of L'Aquila and the École Centrale de Lille, Lille, France
3. Erasmus+ Inter–institutional agreement 2014–2021 between the University of L'Aquila and the Université de Valenciennes et du Hainau–Cambresis, Valenciennes, France
4. Erasmus+ Inter–institutional agreement 2018–2021 between the University of L'Aquila and the École Centrale de Nantes (ECN), Nantes, France
5. Erasmus Lifelong Learning Programme – Bilateral Agreement for the academic years 2014/15–2016/17 with the Université de Paris–Sud (Paris XI), Paris, France
6. Erasmus+ Inter–institutional agreement 2017–2021 between the University of L'Aquila and the Université de Paris–Sud (Paris XI), Paris, France
7. Erasmus+ Inter–institutional agreement 2021–2027 between the University of L'Aquila and the Instituto Tecnologico y de Estudios Superiores de Monterrey, Mexico

Institutional Roles as Delegate for Internationalization

Delegate of the University of L'Aquila for the student and researcher exchange between the *University of L'Aquila and the Centro de Investigación y Estudios Avanzados del I.P.N., Unidad Guadalajara, Mexico*, (2004–present)

Delegate of the University of L'Aquila for the student and researcher exchange between the *University of L'Aquila and the Universidad de Guadalajara, CUCI, Ocotlán, Mexico*, (2014–present)

Delegate of the University of L'Aquila for the student and researcher exchange between the *University of L'Aquila and the École de Technologie Supérieure (ETS), Montréal, Québec, Canada* (2007–2012, 2013–2018, 2019–present)

Delegate of the University of L'Aquila for the student exchange with the "Écoles" and Universities of the *Multilateral Cooperation Agreement Italy–France* for the double B.Sc./M.Sc./Ph.D. degree (2004–present)

Delegate of the University of L'Aquila for the student and researcher exchange between the *University of L'Aquila and the École Centrale de Nantes (ECN), Nantes, France* (2018–present)

Delegate of the University of L'Aquila for the student and researcher exchange between the *University of L'Aquila and the Instituto Tecnologico y de Estudios Superiores de Monterrey, Mexico*, (2022–present)

Institutional Roles for International Coordination

Representative of the Internationalization Commission for the *B.Sc. Curriculum in Information Engineering and for the M.Sc. Curriculum in Computer and Systems Engineering* (2015–2021)

Representative of the DISIM Internationalization Commission (2018–2021)

Research & Project Coordination

*Management of research teams and projects (***main activities***)*

Coordinator and Principal Investigator of the following projects:

"Active Control of Mechanical Structures", Main Research Project of the University of L'Aquila. Lifespan: 2001–2002. Size: 8 persons, **€ 31,200.00**. Role: **Unit principal investigator**

"Nonlinear control of dynamic systems and applications", Research Project between CNR (National Research Council, Italy) and CONACYT (Consejo Nacional de Ciencia y Tecnología, Mexico). Lifespan: 2002–2004. Size: 4 persons, ~**€ 7,000.00**. Role: **Project leader of the Italian unit**

"Nonlinear Control of Hybrid Dynamic Systems and Applications", Executive Program of Scientific and Technological Agreement between Italy (Ministry of Foreign Affairs, Italy) and Mexico (Consejo Nacional de Ciencia y Tecnología, Mexico), SAAP3. Lifespan: 2007–2009. Size: 4 persons, ~**€ 7,000.00**. Role: **Project leader of the Italian unit**

"Nonlinear control of dynamic and hybrid systems, and applications", Research Project between CNR (National Research Council, Italy) and CONACYT (Consejo Nacional de Ciencia y Tecnología, Mexico). Lifespan: 2006–2008. Size: 4 persons, ~**€ 7,000.00**. Role: **Project leader of the Italian unit**

"Analysis of Control Architectures for Yaw and Lateral Stability of a Vehicle", Research Contract with the Research Center of Ford Aachen, Dept. of Vehicle Electronics & Controls, Ford Forschungszentrum Aachen GmbH, Germany. Lifespan: 2008–2009. Size: 6 persons, **€ 25,000.00**. Role: **Project leader**

"Project 1.3.2.a – Nuclear Fission: Analysis and Verification Methods of Nuclear Pressurized Water Reactors of Evolutive Generation" (Ministry of Economic Development), Research Contract PAR2010 "Analysis of the Supervision, Control and Protection Systems in Pressurized Water Reactors of New Generation" with the ENEA–Casaccia RC. Lifespan: 2010–2011. Size: 5 persons, **€ 90,000.00**. Role: **Project leader**

"Project 1.3.1 – New Nuclear Fission: International Collaborations and Competences Developments in Nuclear Field" (Ministry of Economic Development), Research Contract PAR2011 "Study, design and realization of supervisory, control and protection systems for performance and safety improvements of novel nuclear plants" with the Research Center of ENEA–Casaccia. Lifespan: 2011–2012. Size: 5 persons, **€ 40,000.00**. Role: **Project leader**

European Project ECSEL–JU RIA–2017 "AQUAS" – Aggregated Quality Assurance for Systems, H2020–ECSEL–2016–1–RIA–two stage (Research and Innovation Action). Lifespan: 2017–2020. Size: 6 persons, Unit budget: € 292,500.00. Role: **Person responsible for Task 3.1** (personal budget: **€ 56,628.00**). Duration: May 2017 – April 2020 (11 months).

"Coordination of Autonomous Unmanned Vehicles for Highly Complex Performances", Executive Program of Scientific and Technological Agreement between Italy (Ministry of Foreign Affairs and International Cooperation, Italy) and Mexico (Mexican International Cooperation Agency for the Development), SAAP3. Lifespan: 2018–2021. Size: 8 persons. Budget: **€ 95,709.00**. Role: **Project leader of the Italian unit**

European Project ECSEL–JU RIA–2018 "Comp4Drones" – Framework of key enabling technologies for safe and autonomous drones' applications, H2020–ECSEL–2018–2–RIA (Research and Innovation Action). Lifespan: 2019–2022. Size: 10 persons. Total budget: € 28,590,748.75 (estimated project cost); Requested EU Contribution: € 8,456,516.97; Unit budget: € 450,000.00 (Financed: **€ 292,500.00**). Role: **Project leader for the local unit**

National Project PON–AIM (Attraction and Mobility of Researchers; "PON Ricerca e Innovazione 2014–2020", "AIM Attrazione e Mobilità Internazionale"); Budget financed: **€ 185,033.73**. Role: **Project leader**

Management of research teams and projects (*minor activities*)

Coordinator and Principal Investigator of the following projects:

"Control of internal combustion engines with individual air–fuel ratio estimation with a single sensor". University research project. Lifespan: 2001. Size: 5 persons, ~€ 2,600.00. Role: **Project leader**

"Robust control of internal combustion engines", University research project. Lifespan: 2002 Size: 5 persons, ~€ 2,800.00. Role: **Project leader**

"Regulation of hybrid systems with application to the control of internal combustion engines", University research project. Lifespan: 2004. Size: 2 persons, ~€ 2,300.00. Role: **Project leader**

"Regulation of hybrid systems and control of internal combustion engines", University research project. Lifespan: 2005. Size: 2 persons, ~€ 2,200.00. Role: **Project leader**

"Attitude control of ground vehicles", University research project. Lifespan: 2006. Size: 2 persons, ~€ 2,000.00. Role: **Project leader**

"Robust regulation in vehicle attitude control", University research project. Lifespan: 2007. Size: 2 persons, ~€ 1,800.00. Role: **Project leader**

"Observers and controllers for vehicle attitude control", University research project. Lifespan: 2008. Size: 3 persons, ~€ 2,500.00. Role: **Project leader**

"Observers and controllers for vehicle attitude control", University research project. Lifespan: 2009. Size: 2 persons, ~€ 1,600.00. Role: **Project leader**

"Control of systems with distributed sensor networks", University research project. Lifespan: 2010. Size: 3 persons, ~€ 2,400.00. Role: **Project leader**

"Control of systems with distributed sensor networks", University research project. Lifespan: 2011. Size: 3 persons, ~€ 2,400.00. Role: **Project leader**

"Control of systems with distributed wireless sensor networks", University research project. Lifespan: 2012. Size: 3 persons, ~€ 2,200.00. Role: **Project leader**

"Cyber Physical Systems: Drone formation control for structure analysis", University research project. Lifespan: 2015–2016. Size: 3 persons, € 8,088.00. Role: **Project leader**

Further research coordination activities

Italian Coordinator of the Agreement for Scientific Cooperation between the University of L'Aquila and the Centro de Investigación y Estudios Avanzados del I.P.N., Unidad Guadalajara, Mexico (2004–2009, 2010–2014, 2014–2019, 2019–present)

Italian Coordinator of the University of L'Aquila of the Multilateral Cooperation Agreement Italy–France for the double B.Sc./M.Sc./Ph.D. degree (2004–2008, 2009–2014, 2015–present)

Italian Coordinator of the Agreement for Cooperation between the University of L'Aquila and the École de Technologie Supérieure (ETS), Montréal, Québec, Canada (2007–2012, 2013–2018, 2019–present)

Italian Coordinator of the Agreement for Scientific Cooperation between the University of L'Aquila and the Universidad de Guadalajara, Ocotlán, Mexico (2014–2019, 2019–present)

Italian Coordinator of the Agreement for Scientific Cooperation between the University of L'Aquila and the École Centrale de Nantes (ECN), Nantes, France (2019–present)

Italian Coordinator of the Agreement for Scientific Cooperation between the University of L'Aquila and the Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico (2022–present)

Italian Coordinator of the Agreement for Scientific Cooperation for the double Ph.D. degree between the University of L'Aquila and the Centro de Investigación y Estudios Avanzados del I.P.N., Unidad Guadalajara, Mexico (2009–2014, 2014–2019, 2019–2024)

Advisor and Italian Co–Advisor of Ph.D. students of the Doctorate in Electrical and Information Engineering (up to 2012) and of the Doctorate in Information Ingenneering and Science (since 2012 to the present), University of L'Aquila, and of the Doctorado en Ciencias, Especialidad en Ingeniería Eléctrica, CINVESTAV campus Guadalajara, Mexico (2009–present)

Proponent of European/National projects (not financed)

Proposed European H2020 Project "Smart MObile CYber physical system" (call H2020ICT–2014–1; topic: ICT–01–2014; type of action: RIA; proposal number: SEP–210163722; proposal acronym: SMOCY, Total Budget: € 7,998,296.00; Unit budget: € **475,048.00**). Role: **Project leader of the local Italian unit**. Not financed

Proposed European H2020 Project "Future Automated Cargo Terminal" (call H2020–MG–2014_SingleStage_B). Role: **Project leader of the local Italian unit**. Not financed

Proposed European H2020 Project "Enabled Modelling, simulAtioN, Analytics and forecasting TEchnologies" (call H2020–FoF–2015; topic: FoF–08–2015; type of action: RIA; proposal number: 680408; proposal acronym: EMANATE, Total budget: € 3,993,035.00; Unit budget: € **233,783.00**). Role: **Project leader of the local Italian unit**. Not financed

Proposed European H2020 Project "Future Automated Container Terminal" (call H2020–ICT–2015; topic: ICT–24–2015; type of action: RIA; proposal number: SEP–210268571; proposal acronym: FACT, Total budget: € 6,698,722.00; Unit budget: € **609,312.00**). Role: **Project leader of the local Italian unit**. Not financed

Proposed European FP7 Project "Advanced Mediterranean European Smartgrids Cooperation" (call FP7 EraNetMed (2015); topic: ERANETMED_ENERG–11–228; Call Identifier and Subtheme: JC–Energy–2014 – Smart Micro–grids; proposal acronym: AMEDEUS, Total Budget: € 1,195,467.00; Unit budget: € **492,740.00**). Role: **Project coordinator and project leader of the local Italian unit**. Not financed

Proposed European Project ECSEL–JU RIA–2017 "TOMATO". Lifespan: 2017–2020. Size: 4 persons, Unit budget: € **120,000.00**. Role: **Investigator**. Not financed

Proposed National Research Project "Hub for City". Lifespan: 2018–2020. Size: 50 persons, (Total Budget: € 1,935,000.00; Unit budget: € **400,000.00**). Role: **Project leader for the local control unit**. Not financed

Proposed European Project ECSEL–JU RIA–2018 "Trasit". Lifespan: 2019–2022. Size: 10 persons, ~€ **450,000.00**. Role: **Country coordinator of the Italian consortium, and Project leader for the local unit**. Not financed

Proposed European Project ECSEL–JU RIA–2018 "Tomato". Lifespan: 2019–2022. Size: 10 persons, ~€ **450,000.00**. Role: **Country coordinator of the Italian consortium, and Project leader for the local unit**. Not financed

International Teaching & Project Coordination

National Project Leonardo da Vinci – Action 1, of the Ministry of Foreign Affairs and International Cooperation & Ministry of Education, University and Research (MAECI & MIUR). Lifespan: 2019. Budget: € 8,000.00 (co–financed € **4,000.00**). Aim: **Teaching mobility for double Ph.D. degree** University of L'Aquila – Universidad de Guadalajara, CUCI, Ocotlán, Mexico. Role: **Person responsible of the local unit**

European Project Erasmus+ "Electric Vehicle Propulsion & Control – E–PiCo". Lifespan: 2019–2025. Size: 3 persons. Total budget: € 3,025,000.00; Unit budget: € **176,000.00** (estimated over the lifespan). Role: **Project leader for the local unit**. (Cf. Institutional Roles for Research, Teaching Coordination, & Internazionalization section)

Dissemination/ Organization

Guest speaker on "Nonlinear Techniques for Control Problems arising in Automotive Applications", 3^{rd} International Conference on Control, Engineering & Information Technology – CEIT 2015 May 25–27, 2015, Tlemcen, Algeria

Program Chair of the Organizing Committee of the 3^{rd} International Conference on Control, Engineering & Information Technology – CEIT 2015, May 25–27, 2015, Tlemcen, Algeria

Plenary lecturer on "Event–Triggered Real–Time Techniques for Digital Implementation of Controllers for Spacecraft Structures", 5^{th} International Conference on Control, Engineering & Information Technology – CEIT 2017, December 17–19, 2017, Sousse, Tunisia

General Chair, and Local Organizer of the 5^{th} International Symposium on Environment–Friendly Energies and Applications – EFEA 2018, September 24–26, 2018

Local organizer of the Plenary Meeting of the European Project ECSEL–JU RIA–2017 "AQUAS" Meeting, Rome, April 9–11, 2019

Member of the Technical Committee of the DroneSE workshop – Drones System Engineering, for the European Project ECSEL–JU RIA–2018 "Comp4Drones", HiPEAC Conference, January 18–20, 2021, Budapest, Hungary

Member of the Program Committee of the 2021 18^{th} International Conference on Electrical Engineering, Computing Science and Automatic Control – CCE2021, Mexico City, Mexico, November 10–12, 2021

Technology developments

Patent for the industrial invention with the Magneti Marelli Powertrain S.p.A. "Control Method of an Electromagnet Actuator for the Command of a Engine Valve". Inventors: Scacchioli Annalisa, Gaviani Giovanni, Di Benedetto Maria Domenica, Di Gennaro Stefano (Italian Patent no. B02005A000209, Bologna, Italy, April 1, 2005)

Participant in European Projects

European Project "**Hybridge** – Distributed Control and Stochastic Analysis of Hybrid Systems Supporting Safety Critical Real–Time Systems Design" (5^{th} Frame Program IST–2001–IV.2.1 (iii) (Distributed Control), funded by the European Commission under contract number IST–2001–32460)

European Project "**Hycon** – Hybrid Control: Taming Heterogeneity and Complexity of networked Embedded Systems" and "Hycon Network of Excellence" (6^{th} Frame Program, contract number FP6–IST–511368)

European Project "**iFly** – Safety, Complexity and Responsibility based design and validation of highly automated Air Traffic Management" (6^{th} Frame Program FP6–2005–Aero–4 (Priority 1.3.1.4.g Aeronautics and Space), funded by the European Commission under contract number TREN/07/ FP6AE/S07.71574/037180)

European Project "**Hycon2**" (7^{th} Frame Program, Grant agreement no: 257462 for: Network of Excellence, Project full title: "Highly–complex and networked control systems")

European Project "**Marea** – Mathematical approach towards resilience engineering in ATM" (7^{th} Frame Program)

Other Activities

Member of the Editorial Board of the IET Control Theory and Applications, from 2007 to 2013

Guest Editorof the Special Issue "Multilevel Power Converters Control and Modulation Techniques" of the journal *Energies*

Member of the National Commission for Engineers, Faculty of Engineering of the University of L'Aquila, in 1995, 2003, 2005, 2008

Reviewer of International Journals (IEEE Transactions on Automatic Control, Automatica, European Journal of Control, International Journal of Robust and Nonlinear Control, IET Control Theory & Applications, etc.) and International Conferences (IEEE Conference on Decision and Control, European Control Conference, American Control Conference, IFAC World Congress, etc.)

Administrative Skills

Second Lieutenant of the **Administrative Corp**, Military School "La Nunziatella", Naple, Italy, from June 1988 to April 1989

Spoken Languages

Italian, mother tongue

English, fluent

Spanish, fluent

French, fluent

Latin, scholastic level

Areas of Interest

He is working in the area of hybrid systems, regulation theory, and applications of nonlinear control, in the areas of automotive control, spacecraft attitude control and control of drones, control of electric machines

Publications

Ranking (source: Google Scholar)

Citations: 3729 (1585 from 2019)

h–index: 28 (19 from 2019)

i10–index: 93 (40 from 2019)

See the full list of publications

Summary of the research activity

The research activity fits into the context of the nonlinear control. It was carried out striving to follow the most recent developments in the sector, and has concerned both methodological and applicative arguments. ***See the summary of the research activity***

Supervision of research activities

See the list of the supervision activities for research

Socio–economic impact and transfer	***See the summary of the socio–economic impacts and transfers***
Hobbies	Football, Basketball, Formula 1 and E Studying science, physics, geography, natural science and life

Full list of the publications

International Journals

[I.1] B. Castillo, S. Di Gennaro, S. Monaco and D. Normand–Cyrot, Nonlinear Regulation for a Class of Discrete–Time Systems, *Systems & Control Letters*, No. 20, pp. 57–65, 1993. ISSN: 0167-6911. DOI: 10.1016/0167-6911(93)90087-M
Data base: WOS: A1993KF79400008; Scopus: 2-s2.0-0027222270

[I.2] B. Castillo, S. Di Gennaro, S. Monaco and D. Normand–Cyrot, On Regulation under Sampling, *IEEE Transactions on Automatic Control*, Vol. 42, No. 6, pp. 864–868, 1997. ISSN: 0018–9286. DOI: 10.1109/9.587345
Data base: WOS: A1997XC72800014; Scopus: 2-s2.0-0031162692

[I.3] P. Caravani, and S. Di Gennaro, Robust Control of Synchronous Motors with Non–linearities and Parameter Uncertainties, *Automatica*, Vol. 34, No. 4, pp. 445–450, 1997. ISSN: 0005–1098. DOI: 10.1016/S0005-1098(97)00211-2
Data base: WOS: 000073571000005; Scopus: 2-s2.0-0032050176

[I.4] S. Di Gennaro, C. Horn, S. R. Kulkarni and P. J. Ramadge, Reduction of Timed Hybrid Systems, *Discrete Event Dynamic Systems: Theory & Applications*, Vol.8, No. 4, pp. 343–351, 1998. ISSN: 0924–6703. DOI: 10.1023/A:1008385431572
Data base: WOS: 000077281300001; Scopus: 2-s2.0-0032288239

[I.5] S. Di Gennaro, Active Vibration Suppression in Flexible Spacecraft Attitude Tracking, *AIAA Journal of Guidance, Control, and Dynamics*, Vol. 21, No. 3, pp. 400–408, 1998. ISSN: 0731–5090. DOI: 10.2514/2.4272
Data base: WOS: 000073669400006; Scopus: 2-s2.0-0032071122

[I.6] S. Di Gennaro, Adaptive Robust Tracking for Flexible Spacecraft in Presence of Disturbances, *Journal of Optimization Theory and Applications*, Vol. 98, No. 3, pp. 545–568, 1998. ISSN: 0022–3239. DOI: 10.1023/A:1022667811792
Data base: WOS: 000075715600002; Scopus: 2-s2.0-0032347121

[I.7] S. Di Gennaro, S. Monaco and D. Normand–Cyrot, Nonlinear Digital Scheme for Attitude Tracking, *AIAA Journal of Guidance, Control, and Dynamics*, Vol. 22, No. 3, pp. 467–477, 1999. ISSN: 0731–5090. DOI: 10.2514/2.4406
Data base: WOS: 000080307400011; Scopus: 2-s2.0-0032679562

[I.8] S. Di Gennaro, Adaptive Output Feedback Control of Synchronous Motors, *International Journal of Control*, Vol. 73, No. 16, pp. 1475–1490, 2000. ISSN: 0020–7179. DOI: 10.1080/00207170050163341
Data base: WOS: 000089946900004; Scopus: 2-s2.0-0034634795

[I.9] S. Di Gennaro, Nonlinear H^{∞} Tracking Control for Synchronous Motors, *European Journal of Control*, Vol. 8, No. 1, pp. 18–32, 2002. ISSN: 0947–3580. DOI: 10.3166/ejc.8.18-32
Data base: WOS: 000180631700003; Scopus: 2-s2.0-33750407785

[I.10] B. Castillo and S. Di Gennaro, On the Nonlinear Ripple–Free Sampled–data Robust Regulator, *European Journal of Control*, Vol. 8, No. 1, pp. 44–55, 2002. ISSN: 0947–3580. DOI: 10.3166/ejc.8.44-55
Data base: WOS: 000180631700005; Scopus: 2-s2.0-33645413405

[I.11] S. Di Gennaro, Output Attitude Tracking for Flexible Spacecraft, *Automatica*, Vol. 38, pp. 1719–1726, 2002. ISSN: 0005–1098. DOI: 10.1016/S0005-1098(02)00082-1
Data base: WOS: 000178383100008; Scopus: 2-s2.0-0036779229

[I.12] A. De Santis and S. Di Gennaro, Stabilization for Continuum Models of Large Space Structures in Large Attitude Maneuvers, *European Journal of Control*, Vol. 8, No. 4, pp. 361–372, 2002. ISSN: 0947–3580. DOI: 10.3166/ejc.8.361-372
Data base: WOS: 000180632000007; Scopus: 2-s2.0-46749127115

[I.13] S. Battilotti, A. De Santis and S. Di Gennaro, Discussion on "Stabilization for Continuum Models of Large Space Structures in Large Attitude Maneuvers" by A. De Santis and S. Di Gennaro, *European Journal of Control*, Vol. 8, No. 4, pp. 372–374, 2002. ISSN: 0947–3580. DOI: 10.3166/ejc.8.373-374
Data base: WOS: 000180632000008; Scopus: 2-s2.0-33750414583

[I.14] S. Di Gennaro, Passive Attitude Control of Flexible Spacecraft from Quaternion Measurements, *Journal of Optimization Theory and Applications*, Vol. 116, No.1, pp. 41–60, 2003. ISSN: 0022–3239. DOI: 10.1023/A:1022106118182
Data base: WOS: 000180687300003; Scopus: 2-s2.0-0037263110

[I.15] L. Benvenuti, M. D. Di Benedetto, S. Di Gennaro and A. Sangiovanni–Vincentelli, Individual Cylinder Characteristic Estimation for a Spark Injection Engine, *Automatica*, Vol. 39, pp. 1157–1169, 2003. ISSN: 0005–1098. DOI: 10.1016/S0005-1098(03)00077-3
Data base: WOS: 000183376400003; Scopus: 2-s2.0-0037502824

[I.16] S. Di Gennaro, Output Stabilization of Flexible Spacecraft with Active Vibration Suppression, *IEEE Transactions on Aerospace and Electronic Systems*, Vol. 39, No. 3, pp. 747–759, July 2003. ISSN: 0018–9251. DOI: 10.1109/TAES.2003.1238733
Data base: WOS: 000185723000002; Scopus: 2-s2.0-0344704117

[I.17] B. Castillo–Toledo , S. Čelikovský and S. Di Gennaro, Generalized Immersion and Nonlinear Robust Output Regulation Problem, *Kybernetika*, Vol. 40, No. 2, pp. 207–220, 2004. ISSN: 0023–5954. DOI: –
Data base: WOS: 000222601100004; Scopus: 2-s2.0-3142721458

[I.18] M. Broucke, M.D. Di Benedetto, S. Di Gennaro and A. Sangiovanni–Vincentelli, Efficient Solution of Optimal Control Using Hybrid Systems, *Siam Journal on Control and Optimization*, Vol. 43, No. 6, pp. 1923–1952, 2005. ISSN: 0363–0129. DOI: 10.1137/ S0363012900383090
Data base: WOS: 000229826600001; Scopus: 2-s2.0-27844466136

[I.19] S. Di Gennaro, and X. Yaan, Discussion on: "Adaptive Variable Structure Maneuvering Control and Vibration Reduction of Three–axis Stabilized Flexible Spacecraft", *European Journal of Control*, Vol. 12, No. 6, pp. 669–672, 2006. ISSN: 0947–3580. DOI: 10.3166/ejc.12.669-672
Data base: WOS: 000246836800009; Scopus: 2-s2.0-46749158248

[I.20] S. Di Gennaro, B. Castillo–Toledo, and M. D. Di Benedetto, Non–linear Control of Electromagnetic Valves for Camless Engines, *International Journal of Control*, Special Issue on: "Automotive Control", Vol. 80, No. 11, pp. 1796–1813, 2007. ISSN: 0020–7179. DOI: 10.1080/00207170701519748
Data base: WOS: 000250050200009; Scopus: 2-s2.0-35148836030

[I.21] B. Castillo–Toledo, S. Di Gennaro, A.G. Loukianov, and J. Rivera, Hybrid Control of Induction Motors via Sampled Closed Representations, *IEEE Transactions on Industrial Electronics*, Vol. 55, No. 10, pp. 3758–3771, 2008. ISSN: 0278–0046. DOI: 10.1109/TIE.2008.928117
Data base: WOS: 000259899400030; Scopus: 2-s2.0-54249105923

[I.22] B. Castillo–Toledo, S. Di Gennaro, A. Loukianov and J. Rivera, Discrete Time Sliding Mode Control with Application to Induction Motors, *Automatica*, Vol. 44, pp. 3036–3045, 2008. ISSN: 0005–1098. DOI: 10.1016/j.automatica.2008.05.009
Data base: WOS: 000261964800005; Scopus: 2-s2.0-56749173526

[I.23] M.D. Di Benedetto, S. Di Gennaro, A. D'Innocenzo, Discrete State Observability of Hybrid Systems, *International Journal of Robust and Nonlinear Control*, Special Issue on: "Observability and Observer Design for Hybrid Systems", Vol. 19, No. 14, pp. 1564–1580, 2009. ISSN: 1049–8923. DOI: 10.1002/rnc.1432
Data base: WOS: 000270075800004; Scopus: 2-s2.0-70149106220

[I.24] B. Castillo–Toledo, S. Di Gennaro and J. Anzurez–Marin, On the Fault Diagnosis Problem for Non–linear Systems: A Fuzzy Sliding–Mode Observer Approach, *Journal of Intelligent and Fuzzy Systems*, Vol. 20, No. 4–5, pp. 187–199, 2009. ISSN: 1064–1246. DOI: 10.3233/IFS–2009–0427
Data base: WOS: 000270940200005; Scopus: 2-s2.0-70349878509

[I.25] B. Castillo–Toledo and S. Di Gennaro, Stabilization for a Class of Nonlinear Systems: A Fuzzy Logic Approach, *Engineering Applications of Artificial Intelligence*, Vol. 23, pp. 141–150, 2010. ISSN: 0952–1976. DOI: 10.1016/j.engappai.2009.10.006
Data base: WOS: 000275785300001; Scopus: 2-s2.0-75749132832

[I.26] D. Bianchi, A. Borri, G. Burgio, M. D. Di Benedetto, and S. Di Gennaro, Adaptive Integrated Vehicle Control using Active Front Steering and Rear Torque Vectoring, *International Journal of Vehicle Autonomous Systems*, Special Issue on: "Autonomous and Semi–Autonomous Control for Safe Driving of Ground Vehicles", Vol. 8, No. 2/3/4, pp. 85–105,

2010. ISSN: 1471–0226. DOI: 10.1504/IJVAS.2010.035792
Data base: WOS: 000336893604009; Scopus: 2-s2.0-77957659534

[I.27] J. P. García–Sandoval, B. Castillo–Toledo, S. Di Gennaro and V. González–Álvarez, Structurally Stable Output Regulation Problem With Sampled–Output Measurements Using Fuzzy Immersions, *IEEE Transactions on Fuzzy Systems*, Vol. 18, No. 6, pp. 1170–1177, 2010. ISSN: 1063–6706. DOI: 10.1109/TFUZZ.2010.2079938
Data base: WOS: 000284855200012; Scopus: 2-s2.0-78649756846

[I.28] M. D. Di Benedetto, S. Di Gennaro, A. D'Innocenzo, Verification of Hybrid Automata Diagnosability by Abstraction, *IEEE Transactions on Automatic Control*, Vol. 56, No. 9, pp. 2050–2061, September 2011. ISSN: 0018–9286. DOI: 10.1109/TAC.2011.2105738
Data base: WOS: 000294847600005; Scopus: 2-s2.0-84862648852

[I.29] D. Gómez–Gutiérrez, A. Ramírez–Treviño, J. Ruiz–León, and S. Di Gennaro, On the Observability of Continuous–Time Switched Linear Systems Under Partially Unknown Inputs, *IEEE Transactions on Automatic Control*, Vol. 57, No. 3, pp. 732–738, March 2012. ISSN: 0018–9286. DOI: 10.1109/TAC.2011.2166669
Data base: WOS: 000300845400016; Scopus: 2-s2.0-84857758465

[I.30] C.P. Guillén–Floresa, B. Castillo–Toledo, J.P. García–Sandoval, S. Di Gennaro, V. González Álvarez, A Reset Observer with Discrete/Continuous Measurements for a Class of Fuzzy Nonlinear Systems, *Journal of the Franklin Institute*, Vol. 350, pp. 1974–1991, 2013. ISSN: 0016–0032. DOI: 10.1016/j.jfranklin.2013.04.023
Data base: WOS: 000323358000002; Scopus: 2-s2.0-84880758880

[I.31] M.D. Di Benedetto, S. Di Gennaro, and A. D'Innocenzo, Digital Self–Triggered Robust Control of Nonlinear Systems, *International Journal of Control*, pp. 1664–1672, Vol. 86, No. 9, 2013. ISSN: 0020–7179. DOI: 10.1080/00207179.2013.793405
Data base: WOS: 000323332300020; Scopus: 2-s2.0-84883528274

[I.32] D. Gajic, Z. Djurovic, S. Di Gennaro, and F. Gustafsson, Classification of EEG Signals for Detection of Epileptic Seizures Based on Wavelets and Statistical Pattern Recognition, *Biomedical Engineering: Applications, Basis and Communications*, Vol. 26, No. 2, pp. 1450021.1–1450021.13 2014. ISSN: 1016–2372. DOI: 10.4015/S1016237214500215
Data base: WOS: –; Scopus: 2-s2.0-84896329075

[I.33] S. Di Gennaro, J. Rivera, and M.A. Meza, Sensorless High Order Sliding Mode Control of Induction Motors with Core Loss, *IEEE Transactions on Industrial Electronics*, Vol. 61, No. 6, pp. 2678–2689, 2014. ISSN: 0278–0046. DOI: 10.1109/TIE.2013.2276311
Data base: WOS: 000329055300005; Scopus: 2-s2.0-84891760730

[I.34] M. Defoort, S. Di Gennaro, and M. Djemai, Self–Triggered Control for Multi–Agent Systems with Unknown Non–linear Inherent Dynamics, *IET Control Theory & Applications*, Vol. 8, No. 18, pp. 2266–2275, 2014. ISSN: 1751–8644. DOI: 10.1049/iet-cta.2013.0843
Data base: WOS: 000346082700015; Scopus: 2-s2.0-84916601494

[I.35] C. Acosta Lúa, S. Di Gennaro, B. Castillo–Toledo, and M. Martinez–Gardea, Dynamic Control Applied to a Laboratory Antilock Braking System, *Mathematical Problems in Engineering*, Vol. 2015, pp. 1–10, Article ID 896859, 10 pages, 2015. ISSN: 1024–123X. DOI: 10.1155/2015/896859
Data base: WOS: 000349097100001; Scopus: 2-s2.0-84922309649

[I.36] B. Castillo–Toledo, S. Di Gennaro, and A. López Cuevas, Tracking through Singularities using Sliding Mode Differentiators, *Kybernetika*, Vol. 51, pp. 20–35, 2015. ISSN: 0023–5954. DOI: 10.14736/kyb–2015–1–0020
Data base: WOS: 000353666700003; Scopus: 2-s2.0-84926672306

[I.37] D. Gomez, A. Ramírez, S. Di Gennaro, C.R. Vázquez, Observability and Observer Design for Continuous–Time Perturbed Switched Linear Systems under Unknown Switchings, *Computación y Sistemas*, Vol. 19, No. 4, pp. 769–781, 2015. DOI: 10.13053/CyS-19-4-2232. ISSN: 2007–9737. DOI: 10.13053/CyS-19-4-2232
WOS: 000215157800011; Scopus: 2-s2.0-84953255684

[I.38] C. Acosta Lúa, B. Castillo–Toledo, R. Cespi, and S. Di Gennaro, An Integrated Active Nonlinear Controller for Wheeled Vehicles, *Journal of the Franklin Institute*, Vol. 352, pp. 4890–4910, 2015. ISSN: 0016–0032. DOI: 10.1016/j.jfranklin.2015.07.018
Data base: WOS: 000364889500012; Scopus: 2-s2.0-84946479493

[I.39] M. Martinez–Gardea, I.J. Mares Guzmán, Cuauhtémoc Acosta Lúa, S. Di Gennaro, and Ivan Vázquez Álvarez, Design of a Nonlinear Observer for a Laboratory Antilock Braking System, *Control Engineering and Applied Informatics*, Vol. 17,

No. 3, pp. 105–112, 2015. ISSN: 1454–8658. DOI: –
Data base: WOS: 000362387900012; Scopus: 2-s2.0-84945186575

[I.40] D. Gajic, Z. Djurovic, J. Gligorijevic, S. Di Gennaro, and I. Savic–Gajic, Detection of Epileptiform Activity in EEG Signals Based on Time–Frequency and Non–linear Analysis, *Frontiers in Computational Neuroscience*, Vol. 9, Article 38, pp. 1–16, 2015. ISSN: 1662–5188. DOI: 10.3389/fncom.2015.00038
Data base: WOS: 000352477500002; Scopus: 2-s2.0-84927642979

[I.41] Y. Deng, A. D'Innocenzo, M.D. Di Benedetto, S. Di Gennaro, A. Julius, Verification of Hybrid Automata Diagnosability with Measurement Uncertainty, *IEEE Transactions on Automatic Control*, Vol. 56, No. 9, pp. 982–993, 2016. ISSN: 0018–9286. DOI: 10.1109/TAC.2015.2455111
Data base: WOS: 000373127200009; Scopus: 2-s2.0-84963811287

[I.42] J. Gligorijevic, D. Gajic, A. Brkovic, I. Savic–Gajic, O. Georgieva, and S. Di Gennaro, Online Condition Monitoring of Bearings to Support Total Productive Maintenance in the Packaging Materials Industry, *Sensors*, Vol. 16, No. 316 pp. 1–16, 2016. `www.mdpi.com/journal/sensors`. ISSN: 1424–8220; DOI: 10.3390/s16030316
Data base: WOS: 000373713600129; Scopus: 2-s2.0-84959572298

[I.43] A. Navarrete Guzmán, S. Di Gennaro, J. Rivera Domínguez, C. Acosta Lúa, A.G. Loukianov, and B. Castillo–Toledo, Enhanced Discrete–Time Modeling via Variational Integrators and Digital Controller Design for Ground Vehicles, *IEEE Transactions on Industrial Electronics*, Vol. 63, No. 10, pp. 6375–6385, 2016. ISSN: 0278–0046. DOI: 10.1109/TIE.2016.2578841
Data base: WOS: 000384641900038; Scopus: 2-s2.0-84987719159

[I.44] D. Gajic, I. Savic–Gajic, I. Savic, O. Georgieva, and S. Di Gennaro, Modelling of Electrical Energy Consumption in an Electric Arc Furnace using Artificial Neural Networks, *Energy*, Special Issue on: "Sustainable Energy and Environmental Protection 2014", Vol. 108, pp. 132–139, 2016. ISSN: 0360–5442. eISSN: 1873-6785. DOI: 10.1016/j.energy.2015.07.068
Data base: WOS: 000382414200014; Scopus: 2-s2.0-84938631478

[I.45] C. Acosta–Lúa, S. Di Gennaro, and M.E. Sánchez–Morales, An Adaptive Controller Applied to an Anti–Lock Braking System Laboratory, *DYNA*, Vol. 83, No. 199, pp. 69–77, 2016. ISSN: 0012-7353 Online. DOI: 10.15446/dyna.v83n199.51831
Data base: WOS: –; Scopus: 2-s2.0-85020803692

[I.46] C. Acosta Lúa, B. Castillo–Toledo, R. Cespi, and S. Di Gennaro, Nonlinear Observer–Based Active Control of Ground Vehicles with non Negligible Roll Dynamics, *International Journal of Control, Automation, and Systems*, Vol. 14, No. 3, pp. 743–752, 2016. ISSN: 1598-6446 (print version). eISSN:2005-4092 (electronic version). DOI: 10.1007/s12555-014-0193-2
Data base: WOS: 000376830800013; Scopus: 2-s2.0-84973908864

[I.47] L. Etienne, Y. Khaled, S. Di Gennaro, and J.P. Barbot, Asynchronous Event–Triggered Observation and Control of Linear Systems via Impulsive Observers, *Journal of the Franklin Institute*, Vol. 354, No. 1, pp. 372–391, 2017. DOI: 10.1016/j.jfranklin.2016.08.028
Data base: WOS: WOS:000392674500033; Scopus: 2-s2.0-85005943306

[I.48] A. Borri, D. Bianchi, M. D. Di Benedetto, and S. Di Gennaro, Optimal Workload Actuator Balancing and Dynamic Reference Generation in Active Vehicle Control, *Journal of the Franklin Institute*, Vol. 354, pp. 1722–1740, 2017. DOI: 10.1016/j.jfranklin.2016.12.012
Data base: WOS:000395210400003; Scopus: 2-s2.0-85008311669

[I.49] C. Acosta Lúa, and S. Di Gennaro, Nonlinear Adaptive Tracking for Ground Vehicles in the Presence of Lateral Wind Disturbance and Parameter Variations, *Journal of the Franklin Institute*, Vol. 354, pp. 2742–2768, 2017. DOI: 10.1016/j.jfranklin.2017.01.020
Data base: WOS: 000400230000005; Scopus: 2-s2.0-85012904488

[I.50] C. Acosta–Lúa, S. Di Gennaro, and M.E. Sanchez Morales, Nonlinear Adaptive Controller Applied to an Antilock Braking System with Parameters Variations, *International Journal of Control, Automation, and Systems*, Vol. 15, No. 5, pp. 2043–2052, 2017. ISSN: 1598-6446. eISSN: 2005-4092. DOI: 10.1007/s12555-016-0136-1
Data base: WOS: 000412845300008; Scopus: 2-s2.0-85028894981

[I.51] L. Etienne, S. Di Gennaro, and J.P. Barbot, Periodic Event–Triggered Observation and Control for Nonlinear Lipschitz Systems using Impulsive Observers, *International Journal of Robust and Nonlinear Control*, Vol. 27, No. 18, pp. 4363–4380, 2017. DOI: 10.1002/rnc.3802
Data base: WOS: 000415902300012; Scopus: 2-s2.0-85018531726

[I.52] A. Brkovic, D. Gajic, J. Gligorijevic, I. Savic–Gajic, O. Georgieva, and S. Di Gennaro, Early Fault Detection and Diagnosis in Bearings for more Efficient Operation of Rotating Machinery, *Energy*, Vol. 136, pp. 63–71, 2017. Available online 21 August 2016, http://dx.doi.org/10.1016 /j.energy.2016.08.039. DOI: 10.1016/j.energy.2016.08.039
Data base: WOS: 000412621400007; Scopus: 2-s2.0-84996563875

[I.53] D. Gajic, H. Hadera, L. Onofri, I. Harjunkoski, S. Di Gennaro, Implementation of an Integrated Production and Electricity Optimization System in Melt Shop, *Journal of Cleaner Production*, Vol. 155, pp. 39-46, 2017. Available online September 2016, http://dx.doi.org/10.1016/j.jclepro.2016.09.170. DOI: 10.1016/j.jclepro.2016.09.170
WOS: 000401887700006; Scopus: 2-s2.0-85008704985

[I.54] C. Acosta Lúa, G. De Jesus Díaz, S. Di Gennaro, and T. Kabbani, Vehicle Reference Generator for Collision–Free Trajectories in Hazardous Maneuvers, *Mathematical Problems in Engineering*, Vol. 2018, pp. 1–10, 2018. https://doi.org /10.1155/2018/4604395. ISSN: 1024123X. DOI: 10.1155/2018/4604395
Data base: WOS:000427150400001; Scopus: 2-s2.0-85044145332

[I.55] T. Kabbani, C. Acosta Lúa, and S. Di Gennaro, Vehicle Reference Generator for Collision–Free Paths, *International Journal of Control, Automation, and Systems*, Vol. 17, No. 1, pp. 181–192, 2019. http://dx.doi.org/10.1007/s12555-017-0433-3. ISSN:1598-6446 (print version). eISSN:2005-4092 (electronic version). DOI: 10.1007/s12555-017-0433-3. ISSN: 15986446. DOI: 10.1007/s12555-017-0433-3
Data base: WOS: 000455033800017; Scopus: 2-s2.0-85059348037

[I.56] C. Acosta Lúa, S. Di Gennaro, A. Navarrete Guzmán, S. Ortega Cisneros, and J. Rivera Domínguez, Digital Implementation via FPGA of Controllers for Active Control of Ground Vehicles, *IEEE Transactions on Industrial Informatics*, Vol. 5, No. 4, pp. 2253–2264, 2019. DOI: 10.1109/TII.2019.2890839
Data base: WOS: 000467095500039; Scopus: 2-s2.0-85064111783

[I.57] G. Hernández–Melgarejo, D.A. Flores–Hernández, A. Luviano–Juárez, L.A. Castañeda, I. Chairez, and S. Di Gennaro, Mechatronic Design and Implementation of a Bicycle Virtual Reality System, *ISA Transactions*, Vol. 97, pp. 336–351, 2020. ISSN: 00190578. DOI: https://doi.org/10.1016/j.isatra.2019.08.002
Data base: WOS: 000525754600029; Scopus: 2-s2.0-85070372293

[I.58] L. Etienne, C. Acosta Lúa, S. Di Gennaro, and J.P. Barbot, A Super–Twisting Controller for Active Control of Ground Vehicles with Tire–Road Friction Estimation and CarSim Validation, *International Journal of Control, Automation, and Systems*, Vol. 18, No. 5, pp. 1177–1189, 2020. ISSN:1598-6446, eISSN:2005-4092. http://dx.doi.org/10.1007/s12555-018-0484-0
Data base: WOS: 000530542400010; Scopus: 2-s2.0-85084925860

[I.59] O.D. Jaramillo, B. Castillo–Toledo, and S. Di Gennaro, Impulsive Observer Design for a Class of Nonlinear Lipschitz Systems with Time–Varying Uncertainties, *Journal of the Franklin Institute*, Vol. 357, pp. 7423–7437, 2020. ISSN: 0016-0032. eISSN: 1879-2693. DOI: https://doi.org/10.1016/j.jfranklin.2020.05.034
Data base: WOS: 000548504000022; Scopus: 2-s2.0-85086379097

[I.60] O.D. Jaramillo, B. Castillo–Toledo, and S. Di Gennaro, Impulsive Observer–Based Stabilization for a Class of Lipschitz Nonlinear Systems with Time–Varying Uncertainties, *Journal of the Franklin Institute*, Vol. 357, No. 11, pp. 12518–12537, 2020. DOI: https://doi.org/10.1016/j.jfranklin.2020.09.046
Data base: WOS: 000586803400026; Scopus: 2-s2.0-85092942387

[I.61] C. Acosta Lúa, C.C. Vaca García, S. Di Gennaro, B. Castillo–Toledo, and M.E. Sánchez Morales, Real–Time Hovering Control of Unmanned Aerial Vehicles, *Mathematical Problems in Engineering*, Vol. 2020, pp. 1–8, 2020. ISSN: 1024-123X. eISSN: 1563-5147. DOI: https://doi.org/10.1155/2020/2314356
Data base: WOS: 000561236900015; Scopus: 2-s2.0-85089747942

[I.62] J.T. Guillen–Bonilla, C.C. Vaca García, S. Di Gennaro, M.E. Sanchez Morales, C. Acosta Lúa, Vision–Based Nonlinear Control of Quadrotors Using the Photogrammetric Technique, *Mathematical Problems in Engineering*, Vol. 2020, pp. 1–10, 2020. ISSN: 1024-123X. eISSN: 1563-5147. https://doi.org/10.1155/2020/5146291
Data base: WOS: 000595912000012; Scopus: 2-s2.0-85097062135

[I.63] M. Di Ferdinando, P. Pepe, and S. Di Gennaro, A Converse Lyapunov–Krasovskii Theorem for the Global Asymptotic Local Exponential Stability of Nonlinear Time–Delay Systems, *IEEE Control Systems Letters – L–CSS*, Vol. 5, pp. 7–12, 2021. Print ISSN: 2475-1456. Online ISSN: 2475-1456. ISSN: 2475-1456. DOI: 10.1109/LCSYS.2020.2999988
Data base: WOS: 000542869600002; Scopus: 2-s2.0-85091096770

[I.64] O.D. Jaramillo, B. Castillo–Toledo, S. Di Gennaro, Robust Impulsive Observer–Based Stabilization for Uncertain Nonlinear Systems with Sampled–Output, *IEEE Control Systems Letters – L–CSS*, *Early Access Article*, Vol. 5, No. 3,

pp. 845–850, 2021. Print ISSN: 2475-1456. Online ISSN: 2475-1456. DOI: 10.1109/LCSYS.2020.3005442
Data base: WOS: 000550629000004; Scopus: 2-s2.0-85089029603

[I.65] S. Dey, F. Zohra Taousser, M. Djemai, M. Defoort, and S. Di Gennaro, Observer Based Leader–Follower Bipartite Consensus with Intermittent Failures using Lyapunov Functions and Time Scale Theory, *IEEE Control Systems Letters – L–CSS*, Vol. 5, No. 6, pp. 1904–1909, 2021. Print ISSN: 2475-1456. Online ISSN: 2475-1456. Online ISSN: 2475-1456. DOI: 10.1109/LCSYS.2020.3040944.
Data base: WOS: 000626315800008; Scopus: 2-s2.0-85102367767

[I.66] M. Cappelli, B. Castillo–Toledo, and S. Di Gennaro, Nonlinear Control of Pressurized Water Reactors with Uncertainties Estimation via High Order Sliding Mode, *Journal of the Franklin Institute*, Vol. 358, No. 2, pp. 1308–1326, 2021. ISSN: 00160032. DOI: 10.1016/j.jfranklin.2020.11.026
Data base: WOS: 000608693300007; Scopus: 2-s2.0-85098078321

[I.67] M. Di Ferdinando, P. Pepe, S. Di Gennaro, A. Borri, and P. Palumbo, Quantized Sampled–Data Static Output Feedback Control of the Glucose–Insulin System, *Control Engineering Practice*, Vol. 112, Article number 104828, 2021. ISSN: 0967–0661. DOI: 10.1016/j.conengprac.2021.104828
Data base: WOS: 000663331400006; Scopus: 2-s2.0-85104596149

[I.68] C. Acosta Lúa, S. Di Gennaro, A. Navarrete Guzmán, and J. Rivera Domínguez, Digital Sliding Mode Controllers for Active Control of Ground Vehicles, *Asian Journal of Control*, Special issue on "emerging control techniques for mechatronic and transportation systems", Vol. 23, No. 5, pp. 2129–2144, 2021. ISSN: 1561–8625. DOI: 10.1002/asjc.2627
Data base: WOS: 000663970800001; Scopus: 2-s2.0-85108286478

[I.69] A. Navarrete Guzmán, C.C. Vaca García, S. Di Gennaro, and C. Acosta Lúa, HOSM Controller Using PI Sliding Manifold for an Integrated Active Control for Wheeled Vehicles, *Mathematical Problems in Engineering*, Vol. 2021. ISSN: 1024-123X. eISSN1563-5147. DOI: 10.1155/2021/5482421
Data base: WOS: 000664116600002; Scopus: 2-s2.0-85107998272

[I.70] R. Cespi, R. Galluzzi, R.A. Ramirez–Mendoza, and S. Di Gennaro, Artificial Intelligence for Stability Control of Actuated in–Wheel Electric Vehicles with CarSim Validation, *Mathematics*, *Open Access*, Vol. 9, No. 23, Article Number 3120, 2021. ISSN: 22277390. eISSN: 2227-7390. DOI: 10.3390/math9233120. DOI: https://dx.doi.org/10.3390/math9233120
Data base: WOS: 000735072600001; Scopus: 2-s2.0-85120816251

[I.71] S. Dey, M. Defoort, M. Djemai, and S. Di Gennaro, Event–Triggered Control for Systems on Non–Uniform Time Domains Using Measure Chain Theory, *IEEE Transactions on Circuits and Systems II: Express Briefs*, Vol. 69, No. 3, pp. 1198–1202, 2022. Print ISSN: 1549-7747. Online ISSN: 1558-3791. DOI: 10.1109/TCSII.2021.3093495.
Data base: WOS: 000770045800110; Scopus: 2-s2.0-85112138644

[I.72] M. Di Ferdinando, P. Pepe, and S. Di Gennaro, A New Approach to the Design of Sampled–Data Dynamic Output Feedback Stabilizers, *IEEE Transactions on Automatic Control*, Vol. 67, No. 2, pp. 1038–1045, 2022. Print ISSN: 0018-9286, Electronic ISSN: 1558-2523, CD: 2334-3303. DOI: 10.1109/TAC.2021.3062345
Data base: WOS: 000750314400047; Scopus: 2-s2.0-85101800557

[I.73] M. Di Ferdinando, B. Castillo–Toledo, S. Di Gennaro, and P. Pepe, Robust Quantized Sampled–Data Stabilization for a Class of Lipschitz Nonlinear Systems with Time–Varying Uncertainties, *IEEE Control Systems Letters – L–CSS*, *Early Access Article*, Vol. 6, pp. 1256–1261, 2022. ISSN: 24751456. DOI: 10.1109/LCSYS.2021.3091202
Data base: WOS: 000670543700037; Scopus: 2-s2.0-85111960835

[I.74] M. Di Ferdinando, P. Pepe, and S. Di Gennaro, On Robustification of Sampled–Data Dynamic Output Feedback Stabilizers for Control–Affine Nonlinear Systems, *IEEE Control Systems Letters – L–CSS*, *Early Access Article*, Vol. 6, pp. 3277–3282, 2022. ISSN: 2475-1456. DOI: 10.1109/LCSYS.2022.3184466
Data base: WOS: 000819822000004; Scopus: 2-s2.0-85133716496

[I.75] A. Borri, M. Di Ferdinando, D. Bianchi, P. Pepe, and S. Di Gennaro, Quantized Sampled–Data Attitude Control of Ground Vehicles: An Event–Based Approach, *IEEE Control Systems Letters – L–CSS*, *Early Access Article*, Vol. 6, pp. 3194–3199, 2022. Print ISSN: 2475-1456. Electronic ISSN: 2475-1456. DOI: 10.1109/LCSYS.2022.3184273
Data base: WOS: 000818873600001; Scopus: 2-s2.0-85132744431

[I.76] C. Acosta Lúa, S. Di Gennaro, and J.P. Barbot, Nonlinear Control of an Antilock Braking System in the Presence of Tire–Road Friction Uncertainties, *Journal of the Franklin Institute*, Vol. 359, No. 6, pp. 2608–2626, 2022. ISSN: 00160032. DOI: 10.1016/j.jfranklin.2022.02.010
Data base: WOS: 000821488400010; Scopus: 2-s2.0-85126520830

[I.77] M. Di Ferdinando, P. Pepe, and S. Di Gennaro, On Semi–Global Exponential Stability Under Sampling for Locally Lipschitz Time–Delay Systems, *IEEE Transactions on Automatic Control*, Vol. 68, No. 3, pp. 1508–1523, 2023. Print ISSN: 0018-9286, Electronic ISSN: 1558-2523, CD: 2334-3303. DOI: 10.1109/TAC.2022.3152726
Data base: WOS: 000966029000001; Scopus: 2-s2.0-85125338073

[I.78] D. Bianchi, S. Di Gennaro, M. Di Ferdinando, and C. Acosta Lúa, Robust Control of UAV with Disturbances and Uncertainty Estimation, *Machines 2023*, Special Issue on: "Bioinspired Intelligent Algorithms for Optimization, Modeling and Control: Theory and Applications 2023", Vol. 11(3), No. 352, *Early Access*, 2023. DOI:https://doi.org/10.3390/machines 11030352
Data base: WOS: 000958425100001; Scopus: 2-s2.0-85152030070

[I.79] L.F. Muõz Mendoza, G. García–Torales, C. Acosta Lúa, S. Di Gennaro, and J.T. Guillen Bonilla, Trajectories Generation for Unmanned Aerial Vehicles Based on Obstacle Avoidance Located by a Visual Sensing System, *Mathematics*, Special Issue on: "Bioinspired Intelligent Algorithms for Optimization, Modeling and Control: Theory and Applications 2023", Vol. 11, No. 6, paper 1413, pp. 1–25, *Open Access*, https://www.mdpi.com/2227-7390/11/6/1413, 2023. DOI: https://doi.org/10.3390/math11061413
Data base: WOS: 000958857000001; Scopus: 2-s2.0-85151384802

[I.80] M. Di Ferdinando, S. Di Gennaro, and P. Pepe, On Sontag's formula for the Sampled–Data Observer–Based Stabilization of Nonlinear Time–Delay Systems, *Automatica*, Vol. 153, No. 111052, 2023. ISSN: 00051098. eISSN: 1873-2836. DOI: https://doi.org/10.1016/j.automatica.2023.111052
Data base: WOS: –; Scopus: 2-s2.0-85153577650

[I.81] R. Cespi, S. Di Gennaro, B. Castillo–Toledo, J.C. Romero–Aragon, and R.A. Ramírez Mendoza, Neural Network Inverse Optimal Control of Ground Vehicles, *Neural Processing Letters*, Vol. 55, pp. 10287–10313, 2023. ISSN: 13704621. DOI: https://doi.org/10.1007/s11063-023-11327-9
Data base: WOS: 001015573400002; Scopus: 2-s2.0-85162219601

[I.82] C. Acosta Lúa, D. Bianchi, S. Martín Baragaño, M. Di Ferdinando, and S. Di Gennaro, Robust Nonlinear Control of a Wind Turbine with a Permanent Magnet Synchronous Generator, *Energies*, Special Issue on: "Control of Wind and Water Turbines", Vol. 16, 6649, 2023. ISSN: –. DOI: https://doi.org/10.3390/en16186649
Data base: WOS: –; Scopus: –

[I.83] N. Karania, M.A. Alali, S. Di Gennaro, and J.P. Barbot, Developed AC/DC/AC Converter Structure Based on Shunt Active Filter and Advanced Modulation Approach for Asymmetrical Cascade H–Bridge Multi–Level Inverters, *IEEE Open Journal of the Industrial Electronics Society*, Vol. 4, pp. 583–602, 2023. ISSN: 2644-1284. DOI: 10.1109/OJIES.2023. 3325101
Data base: WOS: –; Scopus: –

[I.84] C. Acosta Lúa, D. Bianchi, and S. Di Gennaro, Nonlinear Observer–Based Adaptive Control of Ground Vehicles with Uncertainty Estimation, *Journal of the Franklin Institute*, Vol. 360, No. 18, pp. 14175–14189, 2023. ISSN: –. DOI: https://doi.org/10.1016/j.jfranklin.2023.10.024
Data base: WOS: –; Scopus: –

[I.85] M. Di Ferdinando, G. Pola, S. Di Gennaro, P. Pepe, and A. Borri, On the Design and the Digital Implementation of Observer–Based Controllers for Tracking of Nonlinear Time–Delay Systems, *International Journal of Robust and Nonlinear Control*, Online. ISSN: –. DOI: 10.1002/rnc.7182, https://doi.org/10.1002/rnc.7182
Data base: WOS: –; Scopus: –

[I.86] D. Bianchi, A. Borri, F. Cappuzzo, and S. Di Gennaro, Quadrotor Trajectory Control Based on Energy–Optimal Reference Generator, *Drones*, pp. –, 2024. ISSN: –. DOI: –
Data base: WOS: –; Scopus: –

[I.87] M. Di Ferdinando, S. Di Gennaro, A. Borri, G. Pola, and P. Pepe, On the Digital Event–Based Control for Nonlinear Time–Delay Systems with Exogenous Disturbances, *Automatica*, Vol. 163, pp. -, 2024. ISSN: –. DOI: https://doi.org/10.1016/j.auto
Data base: WOS: –; Scopus: –

[I.88] C. Arellano, B. Castillo–Toledo, A. Loukianov, S. Di Gennaro, Online Reinforcement Learning Control via Discontinuous Gradient, *International Journal of Adaptive Control and Signal Processing*, Vol. –, pp. –, 2024. ISSN: –. DOI: –
Data base: WOS: –; Scopus: –

[I.89] U. Larios Navarro, H.J. García Vázquez, B. Castillo-Toledo, and S. Di Gennaro, Hybrid Nonlinear Ripple–Free Sampled–Data Robust Regulation with Application to UAVs, *IET Control Theory & Applications*, Vol. –, pp. 1–11, 2024. ISSN:

–. DOI: 10.1049/cth2.12649
Data base: WOS: –; Scopus: –

[I.90] G. Di Patrizio Stanchieri, A. De Marcellis, M. Faccio, E. Palange, M. Di Ferdinando, and S. Di Gennaro, P. Pepe, Hardware Implementation on FPGA of a Digital Insulin–Glucose Regulator for Type 2 Diabetic Patients, *Electronics*, Vol. –, pp. –, 2024. ISSN: –. DOI: –
Data base: WOS: –; Scopus: –

[I.91] M. Di Ferdinando, S. Di Gennaro, D. Bianchi, and P. Pepe, On Robust Quantized Sampled–Data Tracking Control of Nonlinear Systems, *IEEE Transactions on Automatic Control*, Vol. –, pp. –, 2024. ISSN: –. DOI: –
Data base: WOS: –; Scopus: –

International Journals (under revision)

[Ir.1] M. Di Ferdinando, A. Borri, S. Di Gennaro, and P. Pepe, On Robustification of Digital Event–Based Controllers for Control–Affine Nonlinear Systems, *Automatica*, Vol. –, No. –, pp. –, 202X. ISSN: –. DOI: –
Data base: WOS: –; Scopus: –

[Ir.2] H. García-Vázquez, L.A. Alvarez Canabal, B. Castillo–Toledo, and S. Di Gennaro, Cooperative Output Regulation for a Class of Switched Linear Multi–Agent Systems with Intermittent Measurements, *IEEE Control Systems Letters (L–CSS)*, Vol. –, pp. –, 2024. ISSN: –. DOI: –
Data base: WOS: –; Scopus: –

[Ir.3] M. Di Ferdinando, A. Borri, S. Di Gennaro, and P. Pepe, On the Digital Event–Triggered Observer–Based Control of Nonlinear Time–Delay Systems, *IEEE Control Systems Letters (L–CSS)*, Vol. –, pp. –, 2024. ISSN: –. DOI: –
Data base: WOS: –; Scopus: –

[Ir.4] B. Delgado, J. Estrada, B. Castillo–Toledo, A.G. Loukianov, and S. Di Gennaro, Regulation for Nonlinear Systems Using Recurrent High Order Neural Network under Aperiodic State Measurements, *IEEE Control Systems Letters (L–CSS)*, Vol. –, pp. –, 2024. ISSN: –. DOI: –
Data base: WOS: –; Scopus: –

[Ir.5] M. Di Ferdinando, G. Pola, S. Di Gennaro, and P. Pepe, On Sampled–Data Control of Nonlinear Asynchronous Switched Systems, *IEEE Control Systems Letters (L–CSS)*, Vol. –, pp. –, 2024. ISSN: –. DOI: –
Data base: WOS: –; Scopus: –

Papers in Books

[B.1] E. De Santis, M. D. Di Benedetto, S. Di Gennaro, A. D'Innocenzo, and G. Pola, Critical Observability of a Class of Hybrid Systems and Application to Air Traffic Management, in *Stochastic Hybrid Systems: Theory and Safety Critical Applications*, Henk A.P. Blom and J. Lygeros Eds., Lecture Notes in Control and Information Sciences, Vol. 337, Springer Verlag, pp. 141–170, 2006, ISBN: 978–3–540–33466–8.
Data base: WOS: 000274638800005; Scopus: 2-s2.0-33947643603

[B.2] B. Castillo–Toledo, S. Di Gennaro and A. Loukianov, A Sampled–data Regulator using Sliding Modes and Exponential Holder for Linear Systems, in *Systems, Structure and Control*, Aleksandar Lazinica Ed., ISBN: 978–953–7619–05–3, I–Tech Education and Publishing KG, Vienna, Austria, pp. 231–248, 2008.
Data base: WOS: –; Scopus: –

[B.3] F. Jurado, B. Castillo–Toledo, and S. Di Gennaro, Takagi–Sugeno Fuzzy Integral Control for Robust Stabilization of a 6–DOF Four–rotor Helicopter, in *Recent advances in Control Systems, Robotics and Automation – Third Edition*, Salvatore Pennacchio Ed., ISBN: 978-88-901928-6-9, *International Society for Advanced Research*, and in the *International Journal of Factory Automation, Robotics and Soft Computing*, ISSN: 1828–6984, pp. 127–134, 2009.
Data base: WOS: –; Scopus: –

[B.4] M.D. Di Benedetto, S. Di Gennaro, and Alessandro D'Innocenzo, Hybrid Systems and Verification by Abstraction, in *Hybrid Dynamical Systems: Control and Observation*, Vol. 457, M. Djemai and M. Defoort Eds, Springer Verlag, pp. 1–25, 2015. DOI: 10.1007/978-3-319-10795-0_1. ISSN: 0170-8643. ISSN 1610-7411 (electronic). ISBN: 978-3-319-10794-3. ISBN: 978-3-319-10795-0 (eBook).
Data base: WOS: –; Scopus: 2-s2.0-84921828615

[B.5] W. Aggoune, B. Castillo Toledo, and S. Di Gennaro, Self–Triggered Robust Control of Nonlinear Stochastic Systems, in *Hybrid Dynamical Systems: Control and Observation*, Vol. 457, M. Djemai and M. Defoort Eds, Springer Verlag, pp. 277–292, 2015. DOI: 10.1007/978-3-319-10795-0_11. ISSN: 0170-8643. ISSN 1610-7411 (electronic). ISBN: 978-3-319-10794-3. ISBN: 978-3-319-10795-0 (eBook).
Data base: WOS: –; Scopus: 2-s2.0-84922202610

[B.6] D. Gómez–Gutiérrez, C.R. Vázquez, A. Ramírez–Teviño, S. Di Gennaro, On the Observability and Observer Design in Switched Linear Systems, In: New Trends in Observer–based Control: An Introduction to Design Approaches and Engineering Applications, Vol. 1, Olfa Boubaker, Quanmin Zhu, Magdi S. Mahmoud, José Ragot, Hamid Reza Karimi, Jorge Dávila Eds., Academic Press, London, United Kingdom, pp. 73–118, 2019. DOI: 10.1016/B978-0-12-817038-0.00003-2. ISBN: 978-0-12-817038-0
Data base: WOS: –; Scopus: –

International Conferences

[C.1] G. Georgiou, S. Di Gennaro, S. Monaco and D. Normand–Cyrot, On the Nonlinear Adaptive Control of a Flexible Spacecraft, *Proceedings of the First ESA International Conference on 'Spacecraft Guidance, Navigation and Control Systems'*, Noordwijk, The Netherlands, pp. 509–514, 4–7 June, 1991.
Data base: WOS: –; Scopus: –

[C.2] B. Castillo and S. Di Gennaro, Asymptotic Output Tracking for SISO Nonlinear Discrete Systems, *Proceedings of the* 30^{th} *IEEE Conference on Decision and Control*, pp. 1802–1806, Brighton, UK, 11-13 December, 1991.
Data base: WOS: A1991BV05P00411; Scopus: 2-s2.0-0026365199

[C.3] S. Di Gennaro and S. Monaco, On Supervisor Reduction in the Control of Discrete Event Dynamical System, *Proceedings of the Nonlinear Control System Design Symposium*, Bordeaux, France, pp. 465–470, 24–26 June 1992.
Data base: WOS: –; Scopus: –

[C.4] S. Di Gennaro and A. Dyda, Attitude Control of a Satellite with Damping Compensation on the Flexible Boom, *Proceedings of the European Control Conference – ECC 1993*, Groningen, The Netherlands, pp. 1656–1661, June 28 – July 1, 1993.
Data base: WOS: –; Scopus: –

[C.5] A. Chelouah, S. Di Gennaro and M. Tursini, Nonlinear Digital Control of a Synchronous Motor: Comparative Simulation Results, *Proceedings of the IEEE International Conference on Systems, Man and Cybernetics, SMC–93*, Le Touquet, France, pp. 96–101, Vol. 5, 17–20 October, 1993.
Data base: WOS: A1993BZ90V00017; Scopus: 2-s2.0-0027810124

[C.6] E. De Santis and S. Di Gennaro, A Representation of Discrete Event Dynamical Systems, *Proceedings of the* 32^{nd} *IEEE Conference on Decision and Control*, San Antonio, TX, USA, pp. 1176–1181, 15–17 December, 1993.
Data base: WOS: A1993BA27F00241; Scopus: –

[C.7] S. Di Gennaro and M. Tursini, Control Techniques for Synchronous Motors with Flexible Shaft, *Proceedings of the IEEE Conference on Control Applications*, pp. 471–476, Glasgow, UK, 24–26 August, 1994.
Data base: WOS: A1994BB68C00077; Scopus: 2-s2.0-0028753053

[C.8] S. Di Gennaro, Control of Interconnected Manufacturing Cells, 20^{th} *International Conference on Industrial Electronics, Control and Instrumentation – IECON '94*, Bologna, Italy, pp.1544–1549, 5–9 September, 1994.
Data base: WOS: A1994BC18T00280; Scopus: 2-s2.0-0028753420

[C.9] S. Di Gennaro, On the Structural Properties of Discrete Event Dynamic Systems, *Proceedings of the IEEE International Conference on Systems, Man, and Cybernetics, SMC–94*, pp. 1018–1023, San Antonio, TX, USA, 2–5 October, 1994.
Data base: WOS: –; Scopus: 2-s2.0-0028755548

[C.10] S. Battilotti, S. Di Gennaro and L. Lanari, Output Feedback Stabilization of a Rigid Spacecraft with Unknown Disturbances, *Proceedings of the* 33^{rd} *IEEE Conference on Decision and Control*, Lake Buena Vista, FL, USA, pp. 916–920, 14–16 December, 1994.
Data base: WOS: A1994BC17X00193; Scopus: 2-s2.0-0028758714

[C.11] S. Di Gennaro, C. Horn, S. R. Kulkarni and P. J. Ramadge, Reduction of Timed Hybrid Systems, *Proceedings of the* 33^{rd} *IEEE Conference on Decision and Control*, Lake Buena Vista, FL, USA, pp. 4215–4220, 14–16 December, 1994.
Data base: WOS: 000077281300001; Scopus: 2-s2.0-0032288239

[C.12] A. A. Dyda and S. Di Gennaro, Adaptive Trajectory Control for Underwater Robot, *Proceedings of OCEANS 94 – Oceans Engineering for Today's Technology and Tomorrow's Preservation*, Vol. 1, pp. I/614–619, Brest, France, 13–16 September, 1994.
Data base: WOS: A1994BB95H00111; Scopus: –

[C.13] P. Caravani and S. Di Gennaro, H^{∞} Control of a Nonlinear Synchronous Motor with Uncertainties Parameters, *Proceedings of the* 3^{rd} *European Control Conference – ECC 1995*, Rome, Italy, pp. 242–247, 5–8 September, 1995.
Data base: WOS: –; Scopus: –

[C.14] S. Di Gennaro, Adaptive Robust Stabilization of Rigid Spacecraft in Presence of Disturbances, *Proceedings of the* 34^{th} *IEEE Conference on Decision and Control*, New Orleans, LA, USA, pp. 1147–1152, 13–15 December, 1995.
Data base: WOS: A1995BE66Q00227; Scopus: 2-s2.0-0029484741

[C.15] S. Di Gennaro, Robust Angular Tracking Control of Synchronous Motors in Presence of Uncertainties, *Proceedings of the Computational Engineering in Systems Applications, CESA'96 IMACS – Symposium on Control, Optimization and Supervision*, Vol. 2, pp. 1228–1233, 1996.
Data base: WOS: –; Scopus: –

[C.16] B. Castillo and S. Di Gennaro, The Regulation Problem for Sampled Linear Systems, *Mathematical Theory of Networks and Systems*, St. Louis, Missouri, June 24–28, 1996.
Data base: WOS: –; Scopus: –

[C.17] S. Di Gennaro, Output Feedback Stabilization of Flexible Spacecraft, *Proceedings of the* 35^{th} *IEEE Conference on Decision and Control*, Kobe, Japan, pp. 497–502, December 1996.
Data base: WOS: A1996BH27F00108; Scopus: 2-s2.0-0030406146

[C.18] S. Di Gennaro, S. Monaco, D. Normand–Cyrot and A. Pignatelli, Digital Controllers for Attitude Manoeuvring: Experimental Results, *Proceedings of the* 3^{rd} *ESA International Conference on Spacecraft Guidance Navigation and Control Systems – ESA SP–381*, ESTEC, Noordwijk, The Netherlands, pp. 439–446, 1996.
Data base: WOS: –; Scopus: 2-s2.0-0001575809

[C.19] S. Di Gennaro, Active Vibration Suppression for Flexible Spacecraft, *Proceedings of the European Control Conference – ECC 1997*, Brussels, Belgium, 1–4 July 1997. ISBN: 978-395242690-6
Data base: WOS: –; Scopus: 2-s2.0-84983111532

[C.20] S. Di Gennaro, Output Dynamic Angular Velocity Tracking for Synchronous Motors, *Proceedings of the* 36^{th} *IEEE Conference on Decision and Control*, San Diego, California, USA, pp. 1948–1949, 1997.
Data base: WOS: 000072164400387; Scopus: 2-s2.0-0031379933

[C.21] S. Di Gennaro, Stabilization of Rigid Spacecraft with Uncertainties and Input Saturations in a Central Gravitational Field, *Proceedings of the* 36^{th} *IEEE Conference on Decision and Control*, San Diego, California, USA, pp. 4204–4209, 1997.
Data base: WOS: 000072164400822; Scopus: 2-s2.0-0031347218

[C.22] S. Di Gennaro and G. Fusco, Adaptive Torque Control of Induction Motors with Parameter Uncertainties, *Proceedings of the IEEE Conference on Control Applications*, Vol. 2, Trieste, Italy, pp. 1348–1352, 1–4 September, 1998.
Data base: WOS: 000077804400267; Scopus: 2-s2.0-0032301685

[C.23] S. Di Gennaro, Output Control of Synchronous Motors, *Proceedings of the* 37^{th} *IEEE Conference on Decision and Control*, Tampa, Florida, pp. 4658–4663, 1998.
Data base: WOS: 000079708900919; Scopus: 2-s2.0-0032256380

[C.24] S. Di Gennaro, Output Attitude Control of Flexible Spacecraft from Quaternion Measures: a Passivity Approach, *Proceedings of the* 37^{th} *IEEE Conference on Decision and Control*, Tampa, Florida, pp. 4549–4550, Tampa FL, USA, 1998.
Data base: WOS: 000079708900893; Scopus: 2-s2.0-0032285272

[C.25] A. De Santis and S. Di Gennaro, Modelling in the Continuum and Control of Large Space Structures, *Proceedings of the* 4^{th} *International Conference on Dynamics and Control of Structures in Space*, Cranfield, U.K., 24–28 May 1999.
Data base: WOS: –; Scopus: –

[C.26] M. Broucke, M.D. Di Benedetto, S. Di Gennaro and A. Sangiovanni–Vincentelli, Theory of Optimal Control Using Bisimulations, *Proceedings of the* 3^{rd} *International Workshop, HSCC 2000*, Pittsburgh, PA, USA, March 23–25, pp. 89–102, 2000, in Lecture Notes in Computer Science, Vol. 1790, N. Lynch and B. Krogh Eds., Hybrid Systems: Computation and Control, Springer, Berlin, 2000. DOI: 10.1007/3-540-46430-1_11; ISBN 3-540-67259-1.
Data base: WOS: 000088438200011; Scopus: 2-s2.0-84974691332

[C.27] S. Di Gennaro, A Note on the Nonlinear H^{∞} Control for Synchronous Motors, *Proceedings of the* 39^{th} *IEEE Conference on Decision and Control*, pp. 907–912, Sidney, Australia, 2000.
Data base: WOS: 000172029000164; Scopus: 2-s2.0-0034438751

[C.28] M. Broucke, M.D. Di Benedetto, S. Di Gennaro and A. Sangiovanni–Vincentelli, Optimal Control Using Bisimulations: Implementation, *Proceedings of the* 4^{th} *International Workshop, HSCC 2001*, Rome, Italy, March 28–30, 2001, pp. 175–188, in Lecture Notes in Computer Science, vol. 2034, M. D. Di Benedetto and A. Sangiovanni–Vincentelli Eds., Hybrid Systems: Computation and Control, Springer, Berlin, 2001. ISBN 3-540-41866-0.
Data base: WOS: –; Scopus: 2-s2.0-84944223129

[C.29] B. Castillo–Toledo and S. Di Gennaro, Structurally Stable Regulation for Synchronous Motors, *Proceedings of the 2001 IEEE International Conference on Control Applications*, pp. 212–217, Mexico City, Mexico, 5–7 September 2001.
Data base: WOS: 000173316300039; Scopus: 2-s2.0-0035691902

[C.30] B. Castillo–Toledo and S. Di Gennaro, Robust Regulation of Synchronous Motors in Presence of Parameter Uncertainties, *Proceedings of the* 40^{th} *IEEE Conference on Decision and Control*, Vol. 3, pp. 2643–2644, Orlando, FL, USA, December 2001.
Data base: WOS: 000178362200480; Scopus: 2-s2.0-0035710688

[C.31] S. Di Gennaro, Nested Observers for Hybrid Systems, *Proceedings of the Latin–American Conference on Automatic Control CLCA 2002*, Guadalajara, México, December 3–6, 2002.
Data base: WOS: –; Scopus: –

[C.32] S. Di Gennaro, Attitude Tracking for Flexible Spacecraft from Quaternion Measurements, *Proceedings of the* 41^{th} *IEEE Conference on Decision and Control*, Vol. 4, pp. 4090–4091, Las Vegas, NV, USA, 10–13 December 2002.
Data base: WOS: 000181352300732; Scopus: 2-s2.0-0036996812

[C.33] B. Castillo and S. Di Gennaro, Structurally Stable Attitude Tracking for Rigid Spacecraft with Parameter Uncertainties, *Proceedings of the* 41^{th} *IEEE Conference on Decision and Control*, Vol. 4, pp. 4084–4089, Las Vegas, NV, USA, 10–13 December 2002.
Data base: WOS: 000181352300731; Scopus: 2-s2.0-0036994394

[C.34] M. Broucke, M.D. Di Benedetto, S. Di Gennaro and A. Sangiovanni–Vincentelli, Effective Synthesis of Optimal Controllers Using Bisimulations, *Proceedings of the* 41^{th} *IEEE Conference on Decision and Control*, Vol. 3, pp. 3194–3199, Las Vegas, NV, USA, 10–13 December 2002.
Data base: WOS: 000181352300575; Scopus: 2-s2.0-0036992654

[C.35] S. Di Gennaro, Tracking Control using Attitude Measurements for Flexible Spacecraft, *Proceedings of the European Control Conference 2003 – ECC 03*, pp. 2650–2655, Cambridge, UK, September 2003.
Data base: WOS: 000226745601170; Scopus: 2-s2.0-84949109750

[C.36] S. Di Gennaro, Notes on the Nested Observers for Hybrid Systems, *Proceedings of the European Control Conference 2003 – ECC 03*, pp. 3058–3063, Cambridge, UK, September 2003.
Data base: WOS: –; Scopus: 2-s2.0-84983122763

[C.37] B. Castillo–Toledo, S. Di Gennaro, A. G. Loukianov, J. Rivera, On the Discrete–Time Modelling and Control of Induction Motors with Sliding Modes, *Proceedings of the 2004 American Control Conference*, pp. 2598–2602, Boston, Massachusetts, USA, 2004.
Data base: WOS: 000224688300443; Scopus: 2-s2.0-8744289475

[C.38] B. Castillo–Toledo, A. G. Loukianov, S. Di Gennaro, J. Rivera, Output Regulation for Induction Motors, *Proceedings of the* 5^{th} *Asian Control Conference – ASCC 2004*, pp. 623–628, Melbourne, Australia, July 20–23, 2004.
Data base: WOS: –; Scopus: 2-s2.0-16244422020

[C.39] S. Di Gennaro, Tracking Control using Attitude Measurements for Flexible Spacecraft in Presence of Disturbances, *Proceedings of the* 43^{th} *IEEE Conference on Decision and Control*, pp. 2123–2128, December 14–17, Atlantis, Paradise Island, Bahamas, December 2004.
Data base: WOS: 000226745601170; Scopus: 2-s2.0-14344250425

[C.40] M. D. Di Benedetto, S. Di Gennaro, A. D'Innocenzo, Critical Observability and Hybrid Observers for Error Detection in Air Traffic Management, *Proceedings of the 2005 International Symposium on Intelligent Control and* 13^{th} *Mediterranean Conference on Control and Automation*, pp. 1303–1308, 27–29 June, Limassol, Cyprus, 2005.
Data base: WOS: 000231530100223; Scopus: 2-s2.0-33745194605

[C.41] B. Castillo Toledo, S. Di Gennaro, A. Loukianov, J. Rivera Dominguez, Sliding Mode Output Regulation for Induction Motors, *Proceedings of the 2005 International Symposium on Intelligent Control and* 13^{th} *Mediterranean Conference on Control and Automation*, pp. 1315–1320, 27–29 June, Limassol, Cyprus, 2005.
Data base: WOS: 000231530100225; Scopus: 2-s2.0-33745219665

[C.42] S. Di Gennaro and F. Di Paolo, Output Tracking for Chua's Circuit in Presence of Disturbances, *Proceedings of the* 16^{th} *IFAC World Congress*, Prague, Czech Republic, Vol. 38, No. 1, 2005, pp. 276–281, July 4–8, 2005.
WOS: –; Scopus: 2-s2.0-79960713122

[C.43] M. D. Di Benedetto, S. Di Gennaro, and A. D'Innocenzo, Error Detection within a Specific Time Horizon and Application to Air Traffic Management, *Proceedings of the* 44^{th} *IEEE Conference on Decision and Control* and *European Control Conference ECC 2005*, pp. 7472–7477, December 12–15, Sevilla, Spain, December 2005.
Data base: WOS: 000240653707021; Scopus: 2-s2.0-33745791972

[C.44] A. D'Innocenzo, M. D. Di Benedetto and S. Di Gennaro, Observability of Hybrid Automata by Abstraction, *Proceedings of the* 9^{th} *International Workshop, HSCC 2006*, Santa Barbara, California, USA, March 29–31, 2006, in *Hybrid Systems: Computation and Control*, J. Hespanha and A. Tiwari, Eds., Lecture Notes in Computer Science, Vol. 3927, pp. 169–183, Springer Verlag, 2006.
Data base: WOS: 000237082600012; Scopus: 2-s2.0-33745775244

[C.45] A. D'Innocenzo, M. D. Di Benedetto and S. Di Gennaro, Observability of Hybrid Automata by Abstraction, *Proceedings of the CTS–HYCON Workshop on Nonlinear and Hybrid Control*, Université Paris Sorbonne (Paris IV), in: *Taming Heterogeneity and Complexity of Embedded Control*, pp. 1–17, F. Lamnabhi–Lagarrigue, S. Laghrouche, A. Loria, and E. Panteley Eds, International Scientific and Technical Encyclopedia (ISTE), July 10–12 2006.
Data base: WOS: –; Scopus: –

[C.46] M. D. Di Benedetto, S. Di Gennaro, and A. D'Innocenzo, Critical States Detection with Bounded Probability of False Alarm and Application to Air Traffic Management, *Proceedings of the* 2^{nd} *IFAC Conference on Analysis and Design of Hybrid Systems*, pp. 24–29, Alghero, Sardinia, Italy, June 7-9, 2006.
Data base: WOS: –; Scopus: 2-s2.0-79960968061

[C.47] S. Di Gennaro, B. Castillo Toledo, and M. D. Di Benedetto, Nonlinear Regulation of Electromagnetic Valves for Camless Engines, *Proceedings of the* 45^{th} *IEEE Conference on Decision and Control*, San Diego, CA, USA, pp. 3577–3582, December 13–15, 2006.
Data base: WOS: 000252251605109; Scopus: 2-s2.0-39649103442

[C.48] C. Acosta Lúa, B. Castillo Toledo, M. D. Di Benedetto, and S. Di Gennaro, Output Feedback Regulation of Electromagnetic Valves for Camless Engines, *Proceedings of the European Control Conference – ECC 2007*, Kos, Greece, pp. 4103–4110, July 2–5, 2007.
Data base: WOS: –; Scopus: 2-s2.0-84927739724

[C.49] B. Castillo Toledo, S. Di Gennaro, A. Loukianov, and J. Rivera, Robust Nested Sliding Mode Regulation with Application to Induction Motors, *Proceedings of the 2007 American Control Conference*, New York, NY, USA, pp. 5242–5247, July 11–13, 2007.
Data base: WOS: 000252258801235; Scopus: 2-s2.0-46449134929

[C.50] C. Acosta Lúa, B. Castillo Toledo, M. D. Di Benedetto, and S. Di Gennaro, Output Feedback Regulation of Electromagnetic Valves for Camless Engines, *Proceedings of the 2007 American Control Conference*, New York, NY, USA, pp. 2967–2972, July 11–13, 2007.
Data base: WOS: 000252258804055; Scopus: 2-s2.0-46449118566

[C.51] C. Acosta–Lúa, B. Castillo–Toledo, S. Di Gennaro, and A. Toro, Nonlinear Robust Regulation of Ground Vehicle Motion, *Proceedings of the* 46^{th} *IEEE Conference on Decision and Control*, New Orleans, pp. 3871–3876, 2007.
Data base: WOS: 000255181702106; Scopus: 2-s2.0-62749201823

[C.52] A. D'Innocenzo, A.A. Julius, G.J. Pappas, M. D. Di Benedetto, and S. Di Gennaro, Verification of Temporal Properties on Hybrid Automata by Simulation Relations, *Proceedings of the* 46^{th} *IEEE Conference on Decision and Control*, New Orleans, pp. 4039–4044, 2007.
Data base: WOS: 000255181702108; Scopus: 2-s2.0-62749158639

[C.53] M.D. Di Benedetto, S. Di Gennaro, and A. D'Innocenzo, Diagnosability Verification for Hybrid Automata and Durational Graphs, *Proceedings of the* 46^{th} *IEEE Conference on Decision and Control*, New Orleans, pp. 1789–1794, 2007.
Data base: WOS: 000255181703207; Scopus: 2-s2.0-62749124297

[C.54] M. D. Di Benedetto, S. Di Gennaro, and A. D'Innocenzo, Diagnosability Verification for Hybrid Automata, *Proceedings of the* 10^{th} *International Conference, HSCC 2007*, Pisa, Italy, April 3–5 2007, in Lecture Notes in Computer Science, Vol. 4416, A. Bemporad, A. Bicchi and G. Buttazo Eds., Hybrid Systems: Computation and Control, Springer, Berlin, pp. 684–687, 2007.
Data base: WOS: 000246007000058; Scopus: 2-s2.0-38049141843

[C.55] B. Castillo–Toledo, S. Di Gennaro and A. G. Loukianov, Regulator by Sliding Modes with Exponential Holder for Linear Systems, *Proceedings of the* 3^{rd} *IFAC Symposium on System, Structure and Control*, Iguassu Falls, Brazil, pp. 1–6, October 17–19th, 2007.
Data base: WOS: –; Scopus: –

[C.56] F. Jurado, B. Castillo–Toledo, and S. Di Gennaro, Stabilization of a Quadrotor via Takagi–Sugeno Fuzzy Control, *Proceedings of the* 12^{th} *World Multi–Conference on Systemics, Cybernetics and Informatics (WMSCI 2008)*, Orlando, FL, USA, pp. 168–173, 2008.
Data base: WOS: 000263783700040; Scopus: 2-s2.0-84869472829

[C.57] C. Acosta–Lúa, B. Castillo–Toledo, and S. Di Gennaro, Nonlinear Output Robust Regulation of Ground Vehicles in Presence of Disturbances and Parameter Uncertainties, *Proceedings of the* 17^{th} *IFAC World Congress*, Seoul, Korea, July 6–11, pp. 141–146, 2008.
Data base: WOS: –; Scopus: 2-s2.0-79961019550

[C.58] B. Castillo–Toledo, and S. Di Gennaro, Stabilization for a Class of Nonlinear Systems: A Fuzzy Logic Approach, *Proceedings of the* 17^{th} *IFAC World Congress*, Seoul, Korea, July 6–11, pp. 1460–1465, 2008.
Data base: WOS: –; Scopus: 2-s2.0-79961020260

[C.59] A. D'Innocenzo, M.D. Di Benedetto, and S. Di Gennaro, Fault Diagnosis in a Wireless Network, *Proceedings of the* 17^{th} *IFAC World Congress*, Seoul, Korea, July 6–11, pp. 7271–7275, 2008.
Data base: WOS: –; Scopus: 2-s2.0-79961019711

[C.60] M.D. Di Benedetto, S. Di Gennaro and A. D'Innocenzo, Diagnosability of Hybrid Automata with Measurement Uncertainty, *Proceedings of the* 47^{th} *IEEE Conference on Decision and Control*, Cancun, Mexico, pp. 1042–1047, 2008.
Data base: WOS: 000307311601028; Scopus: 2-s2.0-63049088152

[C.61] D. Bianchi, A. Borri, G. Burgio, M. D. Di Benedetto, and S. Di Gennaro, Adaptive Integrated Vehicle Control using Active Front Steering and Rear Torque Vectoring, *Proceedings of the* 48^{th} *IEEE Conference on Decision and Control*, Shanghai, Cina, pp. 3557–3562, 2009.
Data base: WOS: 000336893604009; Scopus: 2-s2.0-77950810198

[C.62] G. Burgio, B. Castillo–Toledo and S. Di Gennaro, Nonlinear Adaptive Tracking for Ground Vehicles, *Proceedings of the* 48^{th} *IEEE Conference on Decision and Control*, Shanghai, Cina, pp. 7645–7650, 2009.
Data base: WOS: 000336893608026; Scopus: 2-s2.0-77950803235

[C.63] C. Acosta Lúa, B. Castillo–Toledo, and S. Di Gennaro, Nonlinear Observer for Lateral Velocity Using Roll Angular Acceleration, *Proceedings of the Semana Nacional de Ingeniería Electrónica – Siene 09*, Ocotlán, Jalisco, Mexico, pp. 39–46, 2009.
Data base: WOS: –; Scopus: –

[C.64] M. Galicia, B. Castillo–Toledo, A. Loukianov, S. Di Gennaro, J. Rivera, Discrete Time Sliding Mode Torque Control of Induction Motor, *Proceedings of the World Automation Congress 2010*, Kobe, Japan, pp. 1–6, 19–23 September, 2010.
Data base: WOS: –; Scopus: 2-s2.0-78651430203

[C.65] B. Castillo–Toledo, S. Di Gennaro, M.I. Galicia, A.G. Loukianov, and J. Rivera, Indirect Discrete–Time Sliding Mode Torque Control of Induction Motors, *Proceedings of the* 19^{th} *International Conference on Electrical Machines, ICEM 2010*, pp. 1–6, Rome, Italy, 2010.
Data base: WOS: –; Scopus: 2-s2.0-78649611756

[C.66] A.A. Dyda, E.V. Lubimov, and S. Di Gennaro, Symbolic Computations in Design and Modelling of Nonlinear Control, *Proceedings of International Conference of Modelling and Simulation in Engineering, Economics and Management*, Barcelona, Spain, pp. 567–580, 2010.
Data base: WOS: 000290974100067; Scopus: –

[C.67] D. Gómez–Gutiérrez, A. Ramírez–Treviño, Javier Ruiz–León, and S. Di Gennaro, Observability of Switched Linear Systems: A Geometric Approach, *Proceedings of the* 49^{th} *IEEE Conference on Decision and Control*, Atlanta, USA, pp. 5636–5642, 2010.
Data base: WOS: 000295049106065; Scopus: 2-s2.0-79953134360

[C.68] S. Di Gennaro, J. Rivera, and B. Castillo–Toledo, Super–Twisting Sensorless Control of Permanent Magnet Synchronous Motors, *Proceedings of the* 49^{th} *IEEE Conference on Decision and Control*, Atlanta, USA, pp. 4018–4023, 2010.
Data base: WOS: 000295049104093; Scopus: 2-s2.0-79953157853

[C.69] B. Castillo–Toledo, S. Di Gennaro, and G. Sandoval Castro, Stability Analysis for a Class of Sampled Nonlinear Systems with Time–Delay, *Proceedings of the* 49^{th} *IEEE Conference on Decision and Control*, Atlanta, USA, pp. 1575–1580, 2010.
Data base: WOS: 000295049101133; Scopus: 2-s2.0-79953159690

[C.70] D. Gómez–Gutiérrez, S. Čelikovský, A. Ramirez, J. Javier Ruíz–León, and S. Di Gennaro, Sliding Mode Observer for Switched Linear Systems, *Proceedings of the* 7^{th} *Annual IEEE Conference on Automation Science and Engineering*, pp. 725–730, Trieste, Italy, August 24–27, 2011.
Data base: WOS: –; Scopus: 2-s2.0-82455188310

[C.71] D. Bianchi, A. Borri, B. Castillo–Toledo, M.D. Di Benedetto, and S. Di Gennaro, Active Control of Vehicle Attitude with Roll Dynamics, *Proceedings of the* 18^{th} *IFAC World Congress*, Milan, Italy, August 28–September 2, pp. 7174–7179, 2011.
Data base: WOS: –; Scopus: 2-s2.0-84866772647

[C.72] C. Califano, S. Di Gennaro, S. Monaco, and D. Normand–Cyrot, Nonlinear Torque Control for High Power Induction Motors with Digital Implementation, *Proceedings of the* 18^{th} *IFAC World Congress*, Milan, Italy, August 28–September 2, pp. 9905–9910, 2011.
Data base: WOS: –; Scopus: 2-s2.0-84866763107

[C.73] B. Castillo–Toledo, S. Di Gennaro, and G. Sandoval Castro, Stability Analysis using Lyapunov–Krasovskii Functional in Discrete Systems with Time–Delays, *Proceedings of the* 18^{th} *IFAC World Congress*, Milan, Italy, August 28–September 2, pp. 7637–7642, 2011.
Data base: WOS: –; Scopus: 2-s2.0-84866745403

[C.74] D. Bianchi, A. Borri, B. Castillo–Toledo, M. D. Di Benedetto and S. Di Gennaro, Smart Management of Actuator Saturation in Integrated Vehicle Control, *Proceedings of the* 50^{th} *IEEE Conference on Decision and Control*, Orlando, FL, USA, pp. 2529–2534, 2011.
Data base: WOS: 000303506203022; Scopus: 2-s2.0-84860679469

[C.75] M.D. Di Benedetto, S. Di Gennaro, and A. D'Innocenzo, Digital Self Triggered Robust Control of Nonlinear Systems, *Proceedings of the* 50^{th} *IEEE Conference on Decision and Control, and European Control Conference (CDC–ECC)*, Orlando, FL, USA, pp. 1674–1679, 2011.
Data base: WOS: 000303506202045; Scopus: 2-s2.0-84860673587

[C.76] B. Castillo–Toledo, S. Di Gennaro, and G. Sandoval Castro, On the Problem of Stabilization for Linear Systems with Time–Delays, *Proceedings of the 2012 American Control Conference*, Montreal, Quebec, Canada, pp. 4691–4696, 2012.
Data base: WOS:000310776204162; Scopus: 2-s2.0-84869416090

[C.77] M. Cappelli, B. Castillo–Toledo, S. Di Gennaro, N. Muellner, and M. Sepielli, Pressurizer Pressure Control in Pressurized Water Reactors: Performance Study of the Control Systems in the Presence of a Turbine Trip, *Proceedings of the* 8^{th} *International Conference on Nuclear Plant Instrumentation, Control, & Human–Machine Interface Technologies – NPIC & HMIT 2012*, pp. 841–852, San Diego, CA, USA, July 22–26, 2012.
Data base: WOS: –; Scopus: 2-s2.0-84880503462

[C.78] B. Castillo–Toledo, S. Di Gennaro, and F. Jurado, Trajectory Tracking for a Quadrotor via Fuzzy Regulation, *Proceedings of the World Automation Congress 2012 – WAC 2012*, Puerto Vallarta, Mexico, pp. 1–6, June 24–28, 2012.
Data base: WOS: 000310335800133; Scopus: 2-s2.0-84870790501

[C.79] W. Aggoune, B. Castillo, and S. Di Gennaro, Self–Triggered Robust Control of Nonlinear Stochastic Systems, *Proceedings of the* 51^{st} *Conference on Decision and Control*, Maui, Hawaii, USA, pp. 7547–7552, 2012.
Data base: WOS: 000327200407124; Scopus: 2-s2.0-84874226025

[C.80] M. Cappelli, B. Castillo–Toledo, S. Di Gennaro, and M. Sepielli, A Simple Nonlinear Controller for Pressurizer Control in a Pressurized Water Reactor, *Proceedings of the* 15^{th} *International Topical Meeting on Nuclear Reactor Thermalhydraulics, NURETH–15*, N. 650, Pisa, Italy, May 12–15, 2013.
Data base: WOS: –; Scopus: –

[C.81] M. Cappelli, B. Castillo–Toledo, S. Di Gennaro, F. Memmi, and M. Sepielli, Digital Nonlinear Control for a Pressurizer in a Pressurized Water Reactor, *Proceedings of the 2013* 21^{st} *International Conference on Nuclear Engineering*

– *ICONE21 2013*, pp. V005T13A026 (7 pages), Chengdu, China, July 29–August 2, 2013. DOI:10.1115/ICONE21-16374.
Data base: WOS: 000359513900088; Scopus: 2-s2.0-84901721416

[C.82] M. Cappelli, S. Di Gennaro, F. Memmi, and M. Sepielli, Using a Hybrid FPGA–CPU Platform for a User–Friendly Environment in Control Systems Design: A Possible Application to Nuclear Plants, *Proceedings of the 2013* 21^{st} *International Conference on Nuclear Engineering – ICONE21 2013*, pp. V005T13A027 (7 pages), Chengdu, China, July 29–August 2, 2013. DOI:10.1115/ICONE21-16378.
Data base: WOS: 000359513900089; Scopus: 2-s2.0-84901710325

[C.83] M. Defoort, S. Di Gennaro, and M. Djemai, Self–Triggered Control for Multi–Agent Systems under a Directed Switching Graph, *Proceedings of the* 52^{nd} *Conference on Decision and Control*, pp. 4754–4759, Florence, Italy, 2013.
Data base: WOS: 000352223505063; Scopus: 2-s2.0-84902340852

[C.84] A. Borri, D. Bianchi, M. D. Di Benedetto and S. Di Gennaro, Vehicle Attitude Control with Saturating Actuators: Workload Balancing and Reference Adaptation, *Proceedings of the* 52^{nd} *Conference on Decision and Control*, pp. 1558–1563, Florence, Italy, 2013.
Data base: WOS: 000352223501128; Scopus: 2-s2.0-84902324917

[C.85] M. Cappelli, S. Di Gennaro, F. Memmi, and M. Sepielli, Control of Physical Processes in Experimental Facilities of Nuclear Plants: An Integrated Multipurpose Development Tool Using Hardware–in–the–Loop Simulations, *Proceedings of the Enlarged Halden Programme Group Meeting – EHPG 2013*, pp.–, Gol, Norway, March 10–15, 2013.
Data base: WOS: –; Scopus: –

[C.86] L. Etienne, S. Di Gennaro, and J.P. Barbot, Active Ground Vehicle Control with use of a Super–Twisting Algorithm in the Presence of Parameter Variations, *Proceedings of the* 3^{rd} *International Conference on Systems and Control – ICSC'13*, pp. 1134–1139, 2013. DOI: 10.1109/ICoSC.2013.6750997. ISBN: 978-1-4799-0275-0, 978-1-4799-0273-6.
Data base: WOS: 000351821600172; Scopus: 2-s2.0-84896649734

[C.87] L. Etienne, S. Di Gennaro, J.P. Barbot, and J. Zerad, Observer Synthesis for Some Classes of Switched Dynamical Systems, *Proceedings of the* 13^{th} *European Control Conference*, pp. 306–311, 2014.
Data base: WOS: 000349955700051; Scopus: 2-s2.0-84911465672

[C.88] M. Cappelli, B. Castillo–Toledo, and S. Di Gennaro, Design of Advanced Controllers for Pressure Control in Nuclear Reactors: A General Approach, *Proceedings of the 2014* 22^{nd} *International Conference on Nuclear Engineering – ICONE22 2014*, pp. V006T13A019 (8 pages), Prague, Czech Republic, July 7–11, 2014. DOI:10.1115/ICONE22-31105. ISBN: 978–0–7918–4596–7.
Data base: WOS: 000367120700028; Scopus: 2-s2.0-84911869034

[C.89] M. Cappelli, S. Di Gennaro, and F. Memmi, Design of Control Systems for Nuclear Plant Processes: A Hardware–in–the–loop Simulation Approach, *Proceedings of the 2014* 22^{nd} *International Conference on Nuclear Engineering – ICONE22 2014*, pp. V006T13A018 (6 pages), Prague, Czech Republic, July 7–11, 2014. DOI: 10.1115/ICONE22-31044: ISBN: 978–0–7918–4596–7.
Data base: WOS: 000367120700027; Scopus: 2-s2.0-84911900991

[C.90] M. Di Felice, E. Pihan, S. Attioui, L. Viger, J.–P. Barbot, S. Di Gennaro, and C. Letellier, Controllability and Stabilizability Analysis of a Positive Chaotic System, *Proceedings of the 2014* 9^{th} *International Symposium on Communication Systems, Networks & Digital Sign – CSNDSP 2014*, pp. 374–379, 2014.
Data base: WOS: 000354963600071; Scopus: 2-s2.0-84910642566

[C.91] I. Savic, D. Gajic, S. Stojiljkovic, I. Savic, and S. Di Gennaro, Modelling and Optimization of Methylene Blue Adsorption from Aqueous Solution Using Bentonite Clay, *Proceedings of the* 24^{th} *European Symposium on Computer Aided Process Engineering – ESCAPE24*, Budapest, Hungary, pp. 1417–1422, 2014. ISSN: 1570–7946.
Data base: WOS: 000345275100236; Scopus: 2-s2.0-84902979639

[C.92] M. Cappelli, S. Di Gennaro, F. Memmi, and M. Sepielli, Using Hardware–in–the–Loop for the Design of Advanced Digital Controllers, *Proceedings of the Enlarged Halden Programme Group Meeting – EHPG 2014*, Halden, Norway, September 7–12, pp. 1610–1630, 2014.
Data base: WOS: –; Scopus: –

[C.93] C. Acosta Lúa, B. Castillo–Toledo, R. Cespi, and S. Di Gennaro, Tyre–Road Friction Coefficient Estimation Based on Tyre Lateral Deflection, *Proceedings of the* 16^{th} *Congreso Latinoamericano de Control Automático – CLCA 2014*, pp. 1089–1094, Cancún, Quintana Roo, Mexico, 2014.
Data base: WOS: –; Scopus: –

[C.94] M. Di Felice, E. Pihan , S. Attioui, L. Viger, J.–P. Barbot, S. Di Gennaro, F. Denis, and C. Letellier, Stabilizability and Impulsive Control of a Four–Dimensional Cancer Model, *Proceedings of the* 4^{th} *International Conference on Complex Systems and Applications – ICCSA 2014*, Le Havre, France, June 23–26, pp. 401–408, 2014.
Data base: WOS: –; Scopus: –

[C.95] M. Martinez–Gardea, I.J. Mares Guzmán, S. Di Gennaro, and C. Acosta Lúa, Experimental Comparison of Linear and Nonlinear Controllers Applied to an Antilock Braking System, *Proceedings of the 2014 IEEE International Conference on Control Applications (CCA)*, Part of 2014 IEEE Multi–Conference on Systems and Control, Antibes, France, October 8–10, pp. 71–76, 2014.
Data base: WOS: 000366055800012; Scopus: 2-s2.0-84920531277

[C.96] D. Gajic, L. Onofri, I. Harjunkoski, I. Grossmann, Z. Djurovic, and S. Di Gennaro, Production Scheduling Optimization in a Melt Shop, *Proceedings of the* 46^{th} *International October Conference on Mining and Metallurgy*, Bor, Serbia, October 1–4, 2014.
Data base: WOS: –; Scopus: –

[C.97] I. Savic, D. Gajic, S. Stojiljkovic, I. Savic, and S. Di Gennaro, Optimization of a Bentonite–Based Heterogeneous Composite for Thermal Energy Storage, *Proceedings of the* 1^{st} *South East European Conference on Sustainable Development of Energy, Water and Environment Systems*, Ohrid, Macedonia, June 29–July 3, 2014.
Data base: WOS: –; Scopus: –

[C.98] M. Cappelli, B. Castillo–Toledo, and S. Di Gennaro, Nonlinear, Advanced Pressure Controller for a PWR Pressurizer, *Proceedings of the* 9^{th} *International Conference on Nuclear Plant Instrumentation, Control, & Human–Machine Interface Technologies – NPIC & HMIT 2015*, Charlotte, North Carolina, USA, February 23–26, pp. 2266-2278, 2015.
Data base: WOS: –; Scopus: 2-s2.0-84946207198

[C.99] M. Cappelli, B. Castillo–Toledo, L. D'Abbieri, and S. Di Gennaro, Design of Advanced Controllers for Nuclear Reactors using an Event–Triggered Control Technique, *Proceedings of the 2015* 23^{rd} *International Conference on Nuclear Engineering – ICONE23 2015*, pp. 1–8, 2015.
Data base: WOS: –; Scopus: 2-s2.0-84959048764

[C.100] L. Etienne, S. Di Gennaro, and J.–P. Barbot, Event Triggered Observer–Based Control for Linear Systems with Time Varying Uncertainties, *Proceedings of the 2015 American Control Conference – ACC 2015*, pp. 1531–1536, 2015.
Data base: WOS: 000370259201100; Scopus: 2-s2.0-84940913054

[C.101] L. Etienne, S. Di Gennaro, and J.–P. Barbot, Event–Triggered Observers and Observer–Based Controllers for a Class of Nonlinear Systems, *Proceedings of the 2015 American Control Conference – ACC 2015*, pp. 4717–4722, 2015.
Data base: WOS: 000370259204134; Scopus: 2-s2.0-84940935531

[C.102] W. Aggoune, and S. Di Gennaro, On Stabilization of Neutral Stochastic Differential Delay Systems, *Proceedings of the 2015 American Control Conference – ACC 2015*, pp. 5288–5293, 2015. DOI: 10.1109/ACC.2015.7172165. ISSN: 07431619. ISBN: 978-147998684-2.
Data base: WOS: 000370259205065; Scopus: 2-s2.0-84940928421

[C.103] D. Gajic, I. Harjunkoski, L. Onofri, I. Savic, and S. Di Gennaro, Integrated Production and Electricity Consumption Optimization in a Melt Shop, *Proceedings of the* 10^{th} *Conference on Sustainable Development of Energy, Water and Environment Systems*, pp. 0171.1–0171.11, Dubrovnik, Croatia, September 27–October 3, 2015. ISSN: 1847–7178.
Data base: WOS: –; Scopus: –

[C.104] D. Gajic, A. Brkovic, I. Savic–Gajic, O. Georgieva, S. Di Gennaro, and Z. Djurovic, Early Bearing Fault Detection and Diagnosis based on Energy Features of Vibration Signals for more Energy Efficient Machinery, *State of the Art on Environmental Protection – Proceedings of the* 8^{th} *International Conference on Sustainable Energy & Environmental Protection – SEEP2015*, pp. 54–59, A. Ghani Olabi and A. Alaswad Eds, August, 11–14, Paisley, Scotland, UK, 2015.
Data base: WOS: –; Scopus:

[C.105] I.M. Savic, D.G. Gajic, A. Brkovic, I.M. Savic–Gajic, O. Georgieva, S. Di Gennaro, Modelling the Power Consumption of an Industrial Chiller Using Artificial Neural Networks, *State of the Art on Environmental Protection – Proceedings of the* 8^{th} *International Conference on Sustainable Energy & Environmental Protection – SEEP2015*, pp. 226–229, A. Ghani Olabi and A. Alaswad Eds, August, 11–14, Paisley, Scotland, UK, 2015.
Data base: WOS: –; Scopus: –

[C.106] M. Martinez–Gardea, C. Acosta–Lúa, I. Vázquez–Álvarez, and S. Di Gennaro, Event–Triggered Linear Control Design for an Antilock Braking System, *Proceedings of the 2015 IEEE Autumn Meeting on Power, Electronics and Computing*

– *ROPEC 2015*, pp. 1–6, 2015. ISBN: 978-146737121-6. DOI: 10.1109/ROPEC.2015.7395091
Data base: WOS: 000382391500024; Scopus: 2-s2.0-84964344629

[C.107] J. Gligorijevic, D. Gajic, A. Brkovic, I. Savic–Gajic, O. Georgieva, and S. Di Gennaro, Online Condition Monitoring of Bearings for Improved Reliability in Packaging Materials Industry, *Proceedings of the* 2^{nd} *International Electronic Conference on Sensors and Applications*, pp. 1–14, Online, November 15–30, 2015. DOI: 10.3390/ecsa-2-E006
Data base: WOS: –; Scopus: –

[C.108] A. Brkovic, D. Gajic, J. Gligorijevic, I. Savic–Gajic, O. Georgieva, and S. Di Gennaro, Early Fault Detection and Diagnosis in Bearings based on Logarithmic Energy Entropy and Statistical Pattern Recognition, *Proceedings of the* 2^{nd} *International Electronic Conference on Entropy and its Applications*, pp. 1–14, Online, November 15–30, 2015. DOI: 10.3390/ecea-2-E001
Data base: WOS: –; Scopus: –

[C.109] L. Etienne, and S. Di Gennaro, Event–Triggered Observation of Nonlinear Lipschitz Systems via Impulsive Observers, *Proceedings of the Nonlinear Control System Design Symposium*, Monterey, California, USA, pp. 678–683. ISSN: 24058963. Also HAL Id: hal–01340928, https://hal.archives-ouvertes.fr/hal–01340928. DOI: 10.1016/j.ifacol.2016.10.242
Data base: WOS: 000401244000112; Scopus: 2-s2.0-85009223929

[C.110] I. Dueñas, J. Rivera, S. Di Gennaro, and S. Ortega, Discrete–Time Field Oriented Control for Induction Motors, *Proceedings of the IFAC 2017 World Congress*, pp. 16330–16335, Toulouse, France, 9–14 July, 2017. ISSN: 24058963. DOI: 10.1016/j.ifacol.2017.08.2310
Data base: WOS: 000423965400145; Scopus: 2-s2.0-85044846241

[C.111] L. Etienne, S. Di Gennaro, J.P. Barbot, Stability Analysis and Gain Synthesis for Lipschitz Non Linear Systems under Dynamic Event Triggered Sampling, *Proceedings of the European Control Conference – ECC 2018*, pp. 2004–2009, Limassol, Cyprus, June 12–15, 2018. ISBN: 978-395242698-2. DOI: 10.23919/ECC.2018.8550225
Data base: WOS: 000467725302006; Scopus: 2-s2.0-85059808800

[C.112] B. Brahmi, M. Saad, C. Ochoa Luna, M. Rahman, and S. Di Gennaro, Adaptive Control of Upper Limb Exoskeleton Robot Based on a New Modified Function Approximation Technique (FAT), *Proceedings of the* 16^{th} *European Control Conference – ECC'18*, pp. 608–613, Limassol, Cyprus, June 12–15, 2018. ISBN: 978-395242698-2. DOI: 10.23919/ECC.2018. 8550171
Data base: WOS: 000467725300100; Scopus: 2-s2.0-85059809113

[C.113] B. Brahmi, M. Saad, C. Ochoa Luna, and S. Di Gennaro, A New Integral Second–Order Terminal Sliding Mode Control with Time Delay Estimation for an Exoskeleton Robot with Dynamics Uncertainties, *Proceedings of the* 5^{th} *International Conference of Control, Dynamic Systems, and Robotics – CDSR'18*, pp. 113.1–113.10, Niagara Falls, Canada, June 7–9, 2018. DOI: 10.11159/cdsr18.113
Data base: WOS: –; Scopus: 2-s2.0-85077955629

[C.114] T. Kabbani, and S. Di Gennaro, Automatic Synthesis via Tulip of an Autonomous Vehicle Controller Ensuring Collision Avoidance, *Proceedings of the* 57^{th} *Conference on Decision and Control*, pp. 6699–6704, Miami Beach FL, USA, December 17–19, 2018. ISSN: 07431546. ISBN: 978-153861395-5. DOI: 10.1109/CDC.2018.8619391
Data base: WOS: 000458114806029; Scopus: 2-s2.0-85062176702

[C.115] O. Jaramillo, B. Castillo–Toledo, and S. Di Gennaro, Robust Regulation for Linear Systems Using Impulsive Observers, *Proceedings of the* 58^{th} *Conference on Decision and Control*, pp. 6313–6318, Nice, France, December 11–13, 2019. DOI: 10.1109/CDC40024.2019.9029694
Data base: WOS: 000560779005124; Scopus: 2-s2.0-85082478267

[C.116] J.A. Ramoz Leon, C. Acosta Lúa, M.E. Sanchez Morales, S. Di Gennaro, and A. Navarrete Guzmán, Nonlinear Control of a Quadrotor with a Slung Load, *Proceedings of the 2019 IEEE Autumn Meeting on Power, Electronics and Computing – ROPEC 2019*, pp. –, Ixtapa, Guerrero, México, November 11–15, 2019. DOI: 10.1109/ROPEC48299.2019.9057082
Data base: WOS: 000569520800054; Scopus: 2-s2.0-85083554630

[C.117] J. Sánchez–Buelna, C. Acosta–Lúa, M.E. Sanchez–Morales, A. Navarrete–Guzmán, and S. Di Gennaro, Nonlinear Control with Experimental Identification Applied to a Scale Electric Vehicle, *Proceedings of the 2019 IEEE Autumn Meeting on Power, Electronics and Computing – ROPEC 2019*, pp. –, Ixtapa, Guerrero, México, November 11–15, 2019. DOI: 10.1109/ROPEC48299.2019.9057080
Data base: WOS: 000569520800052; Scopus: 2-s2.0-85083575167

[C.118] W. Aggoune, S. Di Gennaro, and A. Augier, On Stabilization of a Class of Nonlinear Stochastic Systems of Neutral Type, *Proceedings of the American Control Conference – ACC 2019*, pp. 4406–4411, 2019. DOI: 10.23919/acc.2019.8814352

Data base: WOS: 000589452904075; Scopus: 2-s2.0-85072282978

[C.119] A. Majed Saif, Mario Tinari, Pietro Ciammaichella, C. Buccella, S. Di Gennaro, and C. ecati, Backstepping Control for Multilevel STATCOM, *Proceedings of the 2020 IEEE Energy Conversion Congress and Exposition*, Detroit, Michigan, USA, pp. 3412–3419, 2020. DOI: 10.1109/ECCE44975.2020.9235864.
Data base: WOS: 000645593603119; Scopus: 2-s2.0-85097129659

[C.120] C. Acosta Lua, B. Castillo–Toledo, and S. Di Gennaro, Integrated Active Control of Electric Vehicles, *Proceedings of the* 21^{st} *IFAC World Congress*, invited session on *"Electric Vehicle Propulsion and Control"*, Belin, pp. 13781–13788, 2020. ISSN: 24058963. DOI: 10.1016/j.ifacol.2020.12.886
Data base: WOS: 000652593600198; Scopus: 2-s2.0-85105076450

[C.121] D. Bianchi, A. Borri, M.D. Di Benedetto and S. Di Gennaro, Active Attitude Control of Ground Vehicles with Partially Unknown Model, *Proceedings of the* 21^{st} *IFAC World Congress*, Belin, pp. 14420–14425, 2020. ISSN: 24058963. DOI: 10.1016/j.ifacol.2020.12.1440
Data base: WOS: 000652593600198; Scopus: 2-s2.0-85105051421

[C.122] M. Di Ferdinando, P. Pepe, S. Di Gennaro, and P. Palumbo, Sampled–Data Static Output Feedback Control of the Glucose–Insulin System, *Proceedings of the* 21^{st} *IFAC World Congress*, invited session on *"New trends on digital control systems"*, Belin, pp. 3626–3631, 2020. ISSN: 24058963. DOI: 10.1016/j.ifacol.2020.12.2044
Data base: WOS: 000652592500585; Scopus: 2-s2.0-85107467491

[C.123] V. Patel, C. Cecati, C. Buccella, and S. Di Gennaro, Super Twisting Sliding Mode Controller for PMSM fed with Multilevel Inverter for E–Transportation, *2020 IEEE* 9^{th} *International Power Electronics and Motion Control Conference (IPEMC2020–ECCE Asia)*, Nanjing, China, pp. 238–244, 2020. ISBN: 978-172815301-8. DOI: 10.1109/IPEMC-ECCEAsia48364.2020.9368112
Data base: WOS: 000717619001124; Scopus: 2-s2.0-85103204690

[C.124] M. Di Ferdinando, P. Pepe, and S. Di Gennaro, A Converse Lyapunov–Krasovskii Theorem for the Global Asymptotic Local Exponential Stability of Nonlinear Time–Delay Systems, *Proceedings of the* 59^{th} *Conference on Decision and Control*, 2020. Print ISSN: 2475-1456. Online ISSN: 2475-1456. DOI: 10.1109/LCSYS.2020.2999988.
Data base: WOS: 000542869600002; Scopus: 2-s2.0-85091096770

[C.125] O.D. Jaramillo, B. Castillo–Toledo, S. Di Gennaro, Robust Impulsive Observer–Based Stabilization for Uncertain Nonlinear Systems with Sampled–Output, *Proceedings of the* 59^{th} *Conference on Decision and Control*, 2020. Print ISSN: 2475-1456. Online ISSN: 2475-1456. DOI: 10.1109/LCSYS.2020.2999988
Data base: WOS: 000550629000004; Scopus: 2-s2.0-85089029603

[C.126] C. Acosta Lúa, L.A. Ferre Covantes, C.C. Vaca Garcia, and S. Di Gennaro, Equivalent Control and Reaching Law applied to ABS, *Proceedings of the 2020 IEEE Autumn Meeting on Power, Electronics and Computing – ROPEC 2020*, pp. 1–6, 2020. ISBN: 978-172819953-5. DOI: 10.1109/ROPEC50909.2020.9258669
Data base: WOS: 000651431100001; Scopus: 2-s2.0-85097985452

[C.127] S. Dey, F. Zohra Taousser, M. Djemai, M. Defoort, and S. Di Gennaro, Observer based Leader–Follower Bipartite Consensus with Intermittent Failures using Lyapunov Functions and Time Scale Theory, *Proceedings of the 2021 American Control Conference – ACC 2021*, pp. 2649–2654, 2021. ISSN: 0743-1619. ISBN: 978-166544197-1. DOI: 10.23919/ACC50511.2021.9482750
Data base: WOS: 000702263302118; Scopus: 2-s2.0-85111933277

[C.128] M. Di Ferdinando, P. Pepe, and S. Di Gennaro, Robust Sampled–Data Consensus–Based Cooperative Control of Multi–UAVs, *Proceedings of the* 29^{th} *Mediterranean Conference on Control and Automation – MED 2021*, pp. 167–172, 2021. ISBN: 978-166542258-1. DOI: 10.1109/MED51440.2021.9480249
Data base: WOS: 000811823100024; Scopus: 2-s2.0-85113634518

[C.129] M. Di Ferdinando, P. Pepe, and S. Di Gennaro, On Sampled–Data Leaderless Consensus Tracking of Nonlinear Multi–Agent Time–Delay Systems, *Proceedings of the* 16^{th} *IFAC Workshop on Time Delay Systems – TDS 2021*, PaperOnLine 54–18, pp. 192–197, 2021. ISSN: 24058963. DOI: 10.1016/j.ifacol.2021.11.138
Data base: WOS: 000721711500031; Scopus: 2-s2.0-85120700436

[C.130] M. Di Ferdinando, P. Pepe, S. Di Gennaro, and S. Tarbouriech, On Regional Sampled–Data Control of Nonlinear Time–Delay Systems with Input Saturation Constraints, *Proceedings of the* 3^{rd} *DECOD – DElay and COnstraints in Distributed Parameter Systems*, pp. –, 2021. DOI: –
Data base: WOS: –; Scopus: –

[C.131] M. Di Ferdinando, P. Pepe, and S. Di Gennaro, On Stabilization of Nonlinear Time–Delay Systems via Quantized Sampled–Data Dynamic Output Feedback Controllers, *Proceedings of the* 60^{th} *Conference on Decision and Control*, pp. 4743–4748, 2021. ISSN: 07431546. ISBN: 978-166543659-5. DOI: 10.1109/CDC45484.2021.9683699
Data base: WOS: 000781990304028; Scopus: 2-s2.0-85126009737

[C.132] M. Di Ferdinando, B. Castillo–Toledo, S. Di Gennaro, and P. Pepe, Robust Quantized Sampled–Data Stabilization for a Class of Lipschitz Nonlinear Systems with Time–Varying Uncertainties, *Proceedings of the* 60^{th} *Conference on Decision and Control*, pp. 1256–1261, 2021. ISSN: 24751456. DOI: 10.1109/LCSYS.2021.3091202
Data base: WOS: 000670543700037; Scopus: 2-s2.0-85111960835

[C.133] M. Di Ferdinando, D. Bianchi, S. Di Gennaro, and P. Pepe, On the Robust Quantized Sampled–Data Leaderless Consensus Tracking of Nonlinear Multi–Agent Systems, *Proceedings of the* 60^{th} *Conference on Decision and Control*, pp. 3259–3264, 2021. ISSN: 07431546. ISBN: 978-166543659-5. DOI: 10.1109/CDC45484.2021.9682925
Data base: WOS: 000781990302141; Scopus: 2-s2.0-85125995763

[C.134] V. Dezobry, E. Carencotte, F. Cappuzzo, D. Bianchi, and S. Di Gennaro, Co–Simulation Framework for Virtual V&V of GNC Algorithms for Autonomous UAV, *Proceedings of the NAFEMS WORLD CONGRESS 2021*, 2021. **Data base:** WOS: –; Scopus: –

[C.135] V. Dezobry, F. Cappuzzo, D. Bianchi, and S. Di Gennaro, A Novel Co–Simulation Framework for Verification and Validation of GNC Algorithms for Autonomous UAV, *Proceedings of the* 78^{th} *Annual Forum & Technology Display of the Vertical Flight Society – Forum 78*, Forth Worth, Texas, USA, pp.1–11, 2022. ISSN: –. DOI: 10.4050/F-0078-2022-17638
Data base: WOS: –; Scopus: 2-s2.0-85135051086

[C.136] M. Di Ferdinando, P. Pepe, and S. Di Gennaro, On Quantized Sampled–Data Event–Triggered Consensus Tracking of Nonlinear Multi–Agent Time–Delay Systems, *Proceedings of the* 17^{th} *IFAC Workshop on Time Delay Systems TDS 2022*, IFAC–PapersOnLine, Vol. 55, No. 36, pp. 276–281, Montreal, Canada, September 27–30, 2022. ISSN: 2405-8963. DOI: https://doi.org/10.1016/ j.ifacol.2022.11.370
Data base: WOS: 000903677700007; Scopus: 2-s2.0-85159338379

[C.137] M. Di Ferdinando, A. Borri, S. Di Gennaro, P. Pepe, and P. Palumbo, A Digital Glucose Control Strategy via Subcutaneous Insulin Infusion, *Proceedings of the* 1^{st} *IFAC Workshop on Control of Complex Systems COSY 2022*, IFAC–PapersOnLine, Vol. 55, No. 40, pp. 109–114, Bologna, Italy, November 24–25, 2022. ISSN: 2405-8963. DOI: https://doi.org/10.1016/j.ifacol.2023.01.057
Data base: WOS: 000925770700019; Scopus: 2-s2.0-85159280301

[C.138] A. Borri, M. Di Ferdinando, D. Bianchi, P. Pepe, and S. Di Gennaro, Quantized Sampled–Data Attitude Control of Ground Vehicles: An Event–Based Approach, *Proceedings of the* 61^{st} *Conference on Decision and Control*, pp. –, 2022. ISSN: –. DOI: –. *Also appeared as [I.75].*
Data base: WOS: 000818873600001; Scopus: 2-s2.0-85132744431

[C.139] L.F. Muñoz Mendoza, J.T. Guillen Bonilla, G. García–Torales, C. Acosta Lúa, and S. Di Gennaro, Visual Sensor System Applied to Trajectory Generation for UAVs, *Proceedings of the 2022 IEEE Autumn Meeting on Power, Electronics and Computing – ROPEC 2022*, pp. 1–6, Ixtapa, Guerrero, México, November 9–11, 2022. DOI:
Data base: WOS: 000964422700071; Scopus: 2-s2.0-85147551045

[C.140] G. Di Patrizio Stanchieri, A. De Marcellis, M. Faccio, E. Palange, M. Di Ferdinando, S. Di Gennaro, and P. Pepe, On the FPGA–Based Hardware Implementation of Digital Glucose Regulators forType 2 Diabetic Patients, *Proceedings of the IEEE* 36^{th} *International Symposium on Computer–Based Medical Systems (CBMS)*, pp.802–805, 2023.
Data base: WOS: –; Scopus: –

[C.141] M. Di Ferdinando, S. Di Gennaro, A. Borri, and P. Pepe, Digital Event–Based Stabilization of Nonlinear Time–Delay Systems, *Proceedings of the* 22^{st} *IFAC World Congress*, Yokohama, Japan, pp. 5969–5974, 2023. DOI: https://doi.org/10.1016/j.ifa
Data base: WOS: –; Scopus: –

[C.142] M. Di Ferdinando, S. Di Gennaro, A. Borri, G. Pola, and P. Pepe, On the Digital Event–Based Implementation of a Glucose Regulator via Subcutaneous Insulin Infusion, *Proceedings of the* 62^{nd} *Conference on Decision and Control*, Singapore, pp. 6875–6880, 2023.
Data base: WOS: –; Scopus: –

International Conferences (under revision)

[Cr.1] B. Delgado, J. Estrada, B. Castillo–Toledo, A.G. Loukianov, and S. Di Gennaro, Regulation for Nonlinear Systems Using Recurrent High Order Neural Network under Aperiodic State Measurements, *Proceedings of the* 63^{rd} *Conference on Decision and Control*, Vol. –, pp. –, 2024. ISSN: –. DOI: –. *Also appeared as [Ir.4].*
Data base: WOS: –; Scopus: –

[Cr.2] H. García-Vázquez, L.A. Alvarez Canabal, B. Castillo-Toledo, and S. Di Gennaro, Cooperative Output Regulation for a Class of Switched Linear Multi–Agent Systems with Intermittent Measurements, *Proceedings of the* 63^{rd} *Conference on Decision and Control*, Vol. –, pp. –, 2024. ISSN: –. DOI: –. *Also appeared as [Ir.2].*
Data base: WOS: –; Scopus: –

[Cr.3] M. Di Ferdinando, A. Borri, S. Di Gennaro, and P. Pepe, On the Digital Event–Triggered Observer–Based Control of Nonlinear Time–Delay Systems, *Proceedings of the* 63^{rd} *Conference on Decision and Control*, Vol. –, pp. –, 2024. ISSN: –. DOI: –. *Also appeared as [Ir.3].*
Data base: WOS: –; Scopus: –

[Cr.4] M. Di Ferdinando, G. Pola, S. Di Gennaro, and P. Pepe, On Sampled–Data Control of Nonlinear Asynchronous Switched Systems, *Proceedings of the* 63^{rd} *Conference on Decision and Control*, Vol. –, pp. –, 2024. ISSN: –. DOI: –. *Also appeared as [Ir.5].*
Data base: WOS: –; Scopus: –

[Cr.5] G. Contreras, B. Castillo–Toledo, Alexander G. Loukianov, and S. Di Gennaro, Hybrid Predictor–Observer Control For Linear Input Time–Delay Systems with Discrete–Output Measurements, *Proceedings of the* 63^{rd} *Conference on Decision and Control*, Vol. –, pp. –, 2024. ISSN: –. DOI: –. *Also appeared as [**?**].*
Data base: WOS: –; Scopus: –

[Cr.6] S. Dey, M. Defoort, M. Djemai, S. Di Gennaro, Safety–Critical Event–Triggered Control for Quasi–Linear Systems on Measure Chains, *IEEE Control Systems Letters (L–CSS)*, Vol. –, pp. –, 2024. ISSN: –. DOI: –. *Also appeared as [**?**].*
Data base: WOS: –; Scopus: –

[Cr.7] B. Delgado, J. Estrada, B. Castillo-Toledo, A. G. Loukianov, and S. Di Gennaro, Regulation for Nonlinear Systems Using Recurrent High Order Neural Network under Aperiodic State Measurements, *Proceedings of the* 63^{rd} *Conference on Decision and Control*, Vol. –, pp. –, 2024. ISSN: –. DOI: –.
Data base: WOS: –; Scopus: –

[Cr.8] M. Di Ferdinando, A. Modesti, N. Epicoco, S. Di Gennaro, and P. Pepe, On the Design of Digital Event–Based Controllers for a Class of Nonlinear Systems: an Application to Unmanned Aerial Vehicles, *Proceedings of the 2024 IEEE* 20^{th} *International Conference on Automation Science and Engineering – CASE 2024*, Vol. –, pp. –, 2024. ISSN: –. DOI: –.
Data base: WOS: –; Scopus: –

[Cr.9] P. Salucci, M. Di Ferdinando, M.D. Di Benedetto, A. Balluchi, S. Di Gennaro, and P. Pepe, PEM Fuel Cell Air–Supply Control Based on a Dynamic Quantized Sampled–Data Nonlinear Stabilizer, *Proceedings of the* 31^{th} *IEEE International Conference on Enabling Technologies Infrastructure for Collaborative Enterprises – WETICE–2023*, Vol. –, pp. –, 2024. ISSN: –. DOI: –.
Data base: WOS: –; Scopus: –

[Cr.10] N. Karania, M. Alaaeddin Alali, S. Di Gennaro, and J.P. Barbot, Harmonic–Free AC/DC/AC Structure with Innovative Modulation Technique for Asymmetrical Cascade H–Bridge Multi–Level Inverter, *Proceedings of the* 31^{th} *IEEE International Conference on Enabling Technologies Infrastructure for Collaborative Enterprises – WETICE–2023*, Vol. –, pp. –, 2024. ISSN: –. DOI: –.
Data base: WOS: –; Scopus: –

[Cr.11] M. Di Ferdinando, A. Borri, S. Di Gennaro, and P. Pepe, Sampled–Data Safe Stabilization of Nonlinear Time–Delay Systems, *Proceedings of the* 18^{th} *Time Delay Systems – 18th TDS 2024*, Vol. –, pp. –, 2024. ISSN: –. DOI: –.
Data base: WOS: –; Scopus: –

Teaching books and chapters

[D.1] S. Battilotti and S. Di Gennaro, *System Theory – Collection of Exam Exercises*, Editrice Universitaria di Roma, La Goliardica, 1996, in Italian.

[D.2] C. Gori–Giorgi, S. Monaco, S. Battilotti and S. Di Gennaro, *System Theory – Complements and Exercises*, Editrice Universitaria di Roma, La Goliardica, 1998, in Italian.

[D.3] S. Di Gennaro, Fundamentals of Linear Systems, Chapter 5 of the 'Handbook on Instrumentation and Control Systems', Elsevier, 2022.

[D.4] S. Di Gennaro, M. Cappelli, and B. Castillo Toledo, Advanced Control Systems, Chapter 7 of the 'Handbook on Instrumentation and Control Systems', Elsevier, 2022.

Dissemination papers

[S.1] A. De Carli and S. Di Gennaro, Università e Industria: Tra Meccanica e Robotica ("University and industry: Between Mechanics and Robotics", in Italian), *Automazione Integrata* (in Italian), pp. 48–53, `www.meccanicanews.com`, April 2003.

Reports

[R.1] M. Aparo, M. Casarci, C. Vicino, V. Siepe, S. Di Gennaro, Development of an Automatic System for Feedback Control of an Extraction Process with Solvent, Technical Report RT/COMB/89/9 ENEA – Casaccia, September, 1989, in Italian.

[R.2] S. Di Gennaro, Discrete Event Systems, Technical Report No. 44/91, October 1991, in Italian.

[R.3] A. De Santis e S. Di Gennaro, Modeling in the Continuum for Large Space Structures, *Rapporto interno dell'Università di L'Aquila*, Report No. R. 00–58, 2000.

[R.4] E. De Santis, M. D. Di Benedetto, S. Di Gennaro, G. Pola, Hybrid Observer Design Methodology, *Technical Report WP7, Public Deliverable Deliverable 7.2, Project IST–2001–32460 HYBRIDGE*, July 21, 2003. http://www.nlr.nl/public/hosted–sites/hybridge.

[R.5] M. D. Di Benedetto, S. Di Gennaro, A. D'Innocenzo, Situation Awareness Error Detection, *Technical Report WP7, Public Deliverable Deliverable 7.3, Project IST–2001–32460 HYBRIDGE*, August 18, 2004. http://www.nlr.nl/public/hosted–sites/hybridge.

[R.6] M. D. Di Benedetto, S. Di Gennaro, A. D'Innocenzo, Error Detection within a Specific Time Horizon, *Technical Report WP7, Public Deliverable Deliverable 7.4, Project IST–2001–32460 HYBRIDGE*, January 26, 2005, http://www.nlr.nl/public/hosted–sites/hybridge.

[R.7] M. D. Di Benedetto, S. Di Gennaro, A. D'Innocenzo, Critical Observability for a Class of Stochastic Hybrid Systems and Application to Air Traffic Management, *Technical Report WP7, Public Deliverable Deliverable 7.5, Project IST–2001–32460 HYBRIDGE*, May 30, 2005. http://www.nlr.nl/public/hosted–sites/hybridge.

[R.8] M. D. Di Benedetto, S. Di Gennaro, A. D'Innocenzo, Critical States Detection with Bounded Probability of False Alarm and Application to Air Traffic Management, *Technical Report R.06–86*, Dept. of Electric and Information Engineering, 2006. http://www.diel.univaq.it/tr/web/web_search_tr.php.

[R.9] C. Acosta Lúa, B. Castillo Toledo, M.D. Di Benedetto, S. Di Gennaro, Nonlinear Control of Electromagnetic Valves for Camless Engines, *Technical Report R.06–94*, Dept. of Electric and Information Engineering, 2006. http://www.diel.univaq.it/tr/web/web_search_tr.php.

[R.10] B. Castillo Toledo, S. Di Gennaro, Structurally Stable Regulation via Generalized Immersion, *Technical Report R.06–106*, Dept. of Electric and Information Engineering, 2006. http://www.diel.univaq.it/tr/web/web_search_tr.php.

[R.11] M. D. Di Benedetto, S. Di Gennaro and A. D'Innocenzo, Diagnosability Verification for Hybrid Automata and Durational Graphs, *Technical Report R.07–99*, Dept. of Electric and Information Engineering, 2007. http://www.diel.univaq.it/tr/web/web_search_tr.php.

[R.12] A. D'Innocenzo, A. A. Julius, G. J. Pappas, M. D. Di Benedetto, S. Di Gennaro, Verification of Temporal Properties on Hybrid Automata by Simulation Relations, *Technical Report R.07–100*, Dept. of Electric and Information Engineering, 2007. http://www.diel.univaq.it/tr/web/web_search_tr.php.

[R.13] M.D. Di Benedetto, S. Di Gennaro, A. D'Innocenzo, Digital Self Triggered Robust Control of Nonlinear Systems, *arXiv:1108.5128*, 2011.

[R.14] S. Di Gennaro, and B. Castillo–Toledo, Analysis of the Dynamics of Supervision, Control and Protection Systems in Pressurized Water Reactors of Evolutive Generation, *Deliverable 1 – PAR 2010 Project*, 2011.

[R.15] S. Di Gennaro, and B. Castillo–Toledo, Comparative Study of Controllers for the Supervision, Control and Protection Systems in Pressurized Water Reactors of Evolutive Generation, *Deliverable 2 – PAR 2010 Project*, 2011.

[R.16] S. Di Gennaro, and B. Castillo–Toledo, Performance Study of the Control Systems in the presence of Faults and/or Reference Accidents in Pressurized Water Reactors of Evolutive Generation, *Deliverable 3 – PAR 2010 Project*, 2011.

[R.17] B. Castillo Toledo, S. Di Gennaro, and F. Memmi, Study and Analysis of Control Systems Implementable by Programmable Logic for Performance and Safety Improvements of Novel Nuclear Plants, *Deliverable 1 – PAR 2011 Project*, 2012.

[R.18] B. Castillo Toledo, S. Di Gennaro, and F. Memmi, Development of a Simulation Environment for the Analysis of Control System Performance for Performance and Safety Improvements of Novel Nuclear Plants, *Deliverable 2 – PAR 2011 Project*, 2012.

[R.19] L. Etienne, S. Di Gennaro, and J.–P. Barbot, Event–Triggered Observers and Observer–Based Controllers for a Class of Nonlinear Systems, *arXiv:1503.04118v1*, 2015.

Theses

[T.1] S. Di Gennaro, Development of a Feedback Control for the Extraction Process of Special Nuclear Materials in a Reprocessing Plant of Irradiated Nuclear Fuel, "Laurea" Thesis in Nuclear Engineering, University of Rome "La Sapienza", 1987, in Italian.

[T.2] S. Di Gennaro, Discrete Event Dynamic Systems, Ph. D. Thesis, University of Rome "La Sapienza", *Dept. of Computer and System Science "Antonio Ruberti"*, 1992, in Italian.

Summary of the research activity

In the following it is synthetically described the research activity of Stefano Di Gennaro.

Methodological topics

- **Hybrid and discrete event systems**;
- **Digital control and regulation of discrete–time and sampled continuous–time nonlinear systems**;
- **Stabilization of nonlinear systems with uncertainties**;
- **Stabilization of nonlinear systems with delays**;

Applicative topics

- **Control of spacecraft structures**;
- **Control of synchronous and induction electric motors**;
- **Control of automobile powertrain**;
- **Active vehicle attitude control**;
- **Nonlinear control of nuclear reactors**.

These activities have been carried out in collaboration with colleagues in the frame of national/international collaborations, notably

- Bernardino Castillo, *Centro de Investigación y de Estudios Avanzados del I.P.N.*, Guadalajara, Mexico;
- Salvatore Monaco, Stefano Battilotti, Alberto De Santis, *Dipartimento di Informatica e Sistemistica "Antonio Ruberti"*, Rome, Italy;
- Dorothée Normand–Cyrot, *Laboratoire des Signaux et Systèmes* del C.N.R.S., Paris, France;
- Peter Ramadge, Sanijeev Kulkarni, *Department of Electrical Engineering*, Princeton University, Princeton, USA;
- Alberto Sangiovanni–Vincentelli, *Department of Electrical Engineering and Computer Science*, Berkeley University, Berkeley, USA;
- Maarouf Saad, *Département de Génie Électrique*, École de Technologie Supérieure, Université du Québec, Montreal, Québec, Canada;
- Jorge Rivera, *Centro de Investigación y de Estudios Avanzados del I.P.N.*, Guadalajara, Mexico;
- Cuauhtemoc Acosta Lúa, *Departamento de Ciencias Tecnológicas*, Centro Universitario de la Cinega, Universidad de Guadalajara, Mexico;
- Sergej Čelikovský, *Institute of Information Theory and Automation*, Academy of Sciences, Prague, Czech Republic;
- Alexander Dyda, *Department of Electrical Engineering*, Far Eastern State University, Vladivostok, Russia;
- Agung Julius, *Department of Electrical, Computer, and Systems Engineering*, Rensselaer Polytechnic Institute, Troy, USA;
- Jean–Pierre Barbot, *Laboratoire d'Électronique et Commande des Systèmes*, École Nationale Supérieure de l'Electronique et de ses Applications (ENSEA), France;
- Mauro Cappelli, *Department of Fusion and Nuclear Safety (FSN)*, ENEA, Frascati, Italy;
- Lucien Etienne, *IMT LIlle Douai – École Mines–Télécom, IMT–Université de Lille*, France;
- Mohamed Djemai, *Université Polytechnique Hauts-de-France*, France;

as well as in collaboration with colleagues of my University (Maria Domenica Di Benedetto, Alessandro D'Innocenzo, Elena De Santis, Giordano Pola, Carlo Cecati, Concettina Buccella, Pierdomenico Pepe, Mario Di Ferdinando), and many other colleagues of other Universities. A brief overview of these results is presented in the following.

I. Hybrid and discrete event systems systems. Main results:

1. Necessary conditions and some sufficient conditions for the existence of a reduction of temporized hybrid systems (timed automata) to finite state automata [I.4];
2. Observability of hybrid systems, observability recovery from (minimal set) output information (from continuous signals), critical observability, and decidability and complexity analysis of the verification problem for hidden Markov models [I.23], [B.1], [C.40], [C.46], [R.7], [R.8];
3. Fault diagnosis problem for nonlinear systems via a fuzzy sliding–mode observer approach [I.24];
4. Synthesis of optimal controllers via bisimulation construction [I.18];

5. Abstraction procedure to translate a hybrid automaton into a timed automaton to verify observability and diagnosability properties, with application to electromagnetic valves for camless engines [I.28];
6. Verification of hybrid automata diagnosability with measurement uncertainty [I.41];
7. Observability of continuous–time switched linear systems [I.29], [I.37];
8. Observer synthesis for switched dynamical systems [C.87];
9. Reset observers with discrete/continuous measurements for fuzzy nonlinear systems [I.30];
10. Tracking through singularities using a robust differentiator [I.36];
11. Self triggered control for nonlinear systems [I.31], [R.13], [I.34], [R.13];
12. Event–triggered observers and observer–based controllers for linear and nonlinear systems [C.100], [C.101], [R.19], [C.109], [I.47], [I.51], [C.111];
13. Impulsive observers and observer–based controllers for a class of uncertain nonlinear systems [I.59], [I.60];
14. Event–triggered control for systems on non–uniform time domains [I.65], [I.71];
15. Nonlinear state feedback regulation of electromagnetic valves for camless engines [I.20];
16. Design of event–triggered controllers for nuclear reactors [C.99];
17. Event–triggered control design for an antilock braking system [C.106].
18. Event/self–triggered control for multi–agent systems [I.34], [I.65], [C.83], [C.136];

These works have been carried out in collaboration with: Peter Ramadge, Sanijeev Kulkarni (Department of Electrical Engineering, Princeton); Maria Domenica Di Benedetto, Alessandro D'Innocenzo, Mario Di Ferdinando, Pierdomenico Pepe (Department of Information Engineering, Computer Science and Mathematics, L'Aquila); Alberto Sangiovanni–Vincentelli (Department of Electrical Engineering and Computer Science, Berkeley); Bernardino Castillo (Centro de Investigación y de Estudios Avanzados del I.P.N., Guadalajara); Agung Julius (Department of Electrical, Computer, and Systems Engineering, Rensselaer Polytechnic Institute, Troy); Mohamed Djemai and Michael Defoort (Université Polytechnique Hauts–de–France, France); Jean–Pierre Barbot (École Nationale Supérieure de l'Electronique et de ses Applications, France), Lucien Etienne (IMT LIlle Douai – École Mines–Télécom, IMT–Université de Lille).
Works: [I.4], [I.18], [I.20], [I.23], [I.24], [I.28], [I.29], [I.30], [I.31], [I.34], [I.36], [I.41], [I.37], [I.47], [I.51], [I.59], [I.60], [I.65], [I.71], [B.1], [B.4], [B.5], [C.83], [C.3], [C.6], [C.8], [C.9], [C.11], [C.26], [C.28], [C.31], [C.34], [C.36], [C.40], [C.43], [C.44], [C.45], [C.46], [C.52], [C.53], [C.54], [C.59], [C.60], [C.67], [C.70], [C.87], [C.99], [C.100], [C.101], [C.106], [C.109], [C.111], [C.136], [R.2], [R.4], [R.5], [R.6], [R.7], [R.8], [R.11], [R.12], [R.13], [R.19], [T.2].

II. Digital control and regulation of discrete–time and sampled continuous–time nonlinear systems. Main results:

1. Nonlinear discrete–time regulation for MIMO systems, existence conditions in terms of zero dynamics, and approximate solutions [I.1];
2. Linear and nonlinear regulation of sampled nonlinear systems, with existence of the (exact or approximated) digital solutions under assumptions related to the existence of robust solutions to the continuous problem [I.2];
3. Nonlinear digital multirate controller for asymptotic tracking of a reference attitude trajectory for rigid spacecraft [I.7];
4. Robust regulation of a discretized nonlinear system ensuring a ripple–free behavior in the intersampling time [I.10];
5. Introduction of the generalized immersion for the solution of the robust regulator problem [I.17];
6. Nonlinear state feedback regulation of electromagnetic valves for camless engines [I.20];
7. Hybrid control of induction motors via sampled closed representations [I.21];
8. Digital sliding mode control scheme for discrete time nonlinear systems and application to for induction motors [I.22].
9. Stabilization for the class of continuous time nonlinear systems which are discretized in closed form (strict feedforward form) via a fuzzy logic approach [I.25];
10. Fuzzy nonlinear ripple free regulator solving the sample–data structurally stable regulation problem for the case of nonlinear or generalized immersion [I.27];
11. Discrete–time field oriented control for induction motors [C.110];
12. Enhanced discrete–time modeling via variational integrators and digital controller design for ground vehicles [I.43];
13. Digital controllers for active control of ground vehicles [I.56], [I.68];
14. Robust Quantized sampled–data stabilization for nonlinear systems [I.73], [I.75], [C.132], [C.133];
15. Robustification of sampled–data dynamic output feedback stabilizers [I.74];

These works have been carried out in collaboration with: Bernardino Castillo (Centro de Investigación y de Estudios Avanzados del I.P.N., Guadalajara); Salvatore Monaco (Dipartimento di Informatica e Sistemistica "Antonio Ruberti", Rome); Dorothée Normand–Cyrot (Laboratoire des Signaux et Systèmes, Paris); Sergej Čelikovský (Institute of Information Theory and Automation, Prague); Mauro Cappelli (ENEA); Jorge Rivera (Centro de Investigación y de Estudios Avanzados del I.P.N., Guadalajara).
Works: [I.1], [I.2], [I.7], [I.10], [I.17], [I.20], [I.21], [I.22], [I.25], [I.27], [I.43], [I.56], [I.68], [I.73], [I.74], [I.75], [B.2], [C.2], [C.16], [C.29], [C.37], [C.41], [C.42], [C.47], [C.48], [C.50], [C.51], [C.55], [C.58], [C.64], [C.72], [C.75], [C.79], [C.81], [R.10], [C.110], [C.132], [C.133].

III. Stabilization of nonlinear systems with uncertainties. Main results:

1. Event–triggered observers and observer–based controllers for linear and nonlinear systems with uncertainities (see point I.12);
2. Impulsive observers for a class of uncertain nonlinear systems [I.59], [I.63], [I.60], [I.65], [C.125];
3. Robust quantized sampled-data stabilization for a class of Lipschitz nonlinear systems with time–varying uncertainties (see point IV.6).

These works have been carried out in collaboration with: Jean–Pierre Barbot (École Nationale Supérieure de l'Electronique et de ses Applications, France), Lucien Etienne (IMT LIlle Douai – École Mines–Télécom, IMT–Université de Lille), Bernardino Castillo and Oscar David Jaramillo (Centro de Investigación y de Estudios Avanzados del I.P.N., Guadalajara).
Works: [see point I.12], [I.59], [I.60], [I.65], [C.125], [see point IV.6].

IV. Stabilization of nonlinear systems with delays. Main results:

1. Stabilization of systems modeled via approximated representation (Euler, Runge–Kutta, Takagi–Sugeno, etc.) of the sampled system dynamics [C.69];
2. Stabilization of neutral stochastic systems [C.102], [C.118];
3. Quantized sampled–data static output feedback control of the glucose–insulin system [I.67], [C.122], [C.137];
4. Converse Lyapunov–Krasovskii theorem for the global asymptotic local exponential stability of nonlinear time–delay systems [I.63], [C.124];
5. Design of sampled–data dynamic output feedback stabilizers by Lyapunov–Krasovskii functionals for nonlinear systems with state–delays, is presented [I.72];
6. Robust Quantized Sampled–Data Stabilization for a Class of Lipschitz Nonlinear Systems with Time–Varying Uncertainties [I.73], [C.131];
7. Event/self–triggered control for multi–agent systems (see point I.18).

These works have been carried out in collaboration with: Bernardino Castillo, Graciela Sandoval Castro (Centro de Investigación y de Estudios Avanzados del I.P.N., Guadalajara), Pierdomenico Pepe, Mario Di Ferdinando (University of L'Aquila).
Works: [I.63], [I.67], [I.72], [I.73], [C.69], [C.73], [C.76], [C.102], [C.118], [C.122], [C.124], [C.128], [C.129], [C.130], [C.131], [C.137].

V. Control of spacecraft structures, Unmanned Aerial Vehicles, Multi–Agent Systems. Main results:

1. Nonlinear adaptive control of flexible spacecraft [C.1];
2. Active (piezoelectric actuators) vibration suppression with output controllers in flexible spacecraft attitude tracking [I.5];
3. Adaptive robust tracking for flexible spacecraft in presence of environmental disturbances [I.6];
4. Nonlinear digital multirate controller for asymptotic tracking of a reference attitude trajectory for rigid spacecraft [I.7];
5. Attitude output feedback control for spacecraft with flexible appendages in presence of parametric uncertainties and/or environmental disturbances [I.11];
6. Global state feedback and semiglobal output feedback of infinite dimensional large space structure with flexible elements [I.12];
7. Attitude tracking via structurally stable regulation of rigid spacecraft with parameter uncertainties [C.33];
8. Passive output dynamic control of spacecraft with flexible appendages [I.14];
9. Active (piezoelectric) output dynamic controller for flexible spacecraft in presence of disturbances and parameter variations [I.16];
10. Control of aerial vehicles [B.3], [C.78], [C.116], [I.61], [I.62], [C.134], [C.135];
11. Leaderless Consensus Tracking of Nonlinear Multi–Agent Systems [C.133];
12. Event/self–triggered control for multi–agent systems (see point I.18).

These works have been carried out in collaboration with: Salvatore Monaco, Alberto De Santis (Dipartimento di Informatica e Sistemistica "Antonio Ruberti", Roma); Bernardino Castillo (Centro de Investigación y de Estudios Avanzados del I.P.N., Guadalajara).
Works: [I.5], [I.6], [I.7], [I.11], [I.12], [I.13], [I.14], [I.16], [I.19], [I.61], [I.62], [B.3], [C.1], [C.4], [C.12], [C.10], [C.14], [C.17], [C.18], [C.19], [C.21], [C.24], [C.25], [C.32], [C.33], [C.35], [C.39], [C.56], [C.78], [C.116], [C.127], [C.133], [C.134], [C.135], [R.3].

VI. Control of synchronous and induction electric motors. Main results:

1. Robust feedback control of a synchronous motor with model and parameter uncertainties, and load disturbances [I.3];
2. Adaptive output feedback control of synchronous motors [I.8];
3. Nonlinear H^{∞} control of a permanent magnet synchronous motor subject to parameter variations [I.9];
4. Hybrid control of induction motors via sampled closed representations [I.21];
5. Digital sliding mode control scheme for discrete time nonlinear systems and application to for induction motors [I.22];
6. Sensorless high order sliding mode control of induction motors [I.33];
7. Structurally stable regulation for synchronous motors [C.29];
8. Super–twisting sensorless control of permanent magnet synchronous motors [C.68];
9. Discrete–time field oriented control for induction motors [C.110];
10. Control of Synchronous motor for automotive applications [C.120], [C.123].

These works have been carried out in collaboration with: Bernardino Castillo Toledo and Jorge Rivera (Centro de Investigación y de Estudios Avanzados del I.P.N., Guadalajara).
Works: [I.3], [I.8], [I.9], [I.21], [I.22], [I.33], [C.5], [C.7], [C.13], [C.15], [C.20], [C.22], [C.23], [C.27], [C.29], [C.30], [C.37], [C.38], [C.41], [C.49], [C.64], [C.68], [C.72], [C.110], [C.120], [C.123].

VII. Control of automobile powertrain. Main results:

1. Estimation technique for injector characteristics based on a set of measurements, carried out using sensors present in classical cars [I.15];
2. Nonlinear state feedback regulation of electromagnetic valves for camless engines [I.20];
3. Abstraction procedure to translate a hybrid automaton into a timed automaton to verify observability and diagnosability properties, with application to electromagnetic valves for camless engines [I.28];
4. Nonlinear output feedback regulation of electromagnetic valves for camless engines [C.50].

These works have been carried out in collaboration with: Maria Domenica Di Benedetto (Department of Information Engineering, Computer Science and Mathematics, L'Aquila); Bernardino Castillo Toledo (Centro de Investigación y de Estudios Avanzados del I.P.N., Guadalajara).
Works: [I.15], [I.20], [I.28], [C.47], [C.48], [C.50], [R.9].

VIII. Active vehicle attitude control. Main results:

1. Nonlinear active control of vehicles [I.26], [I.49], [I.58], [I.69];
2. Enhanced discrete–time modeling via variational integrators and digital controller design for ground vehicles [I.43];
3. Digital controllers for active control of ground vehicles [I.56], [I.68];
4. Dynamic nonlinear controller for lateral and yaw velocity for vehicles with non negligible roll dynamics [I.38], [I.46];
5. Adaptive integrated vehicle control using active front steering and rear torque vectoring [C.61];
6. Nonlinear adaptive tracking for ground vehicles [C.62];
7. Smart management of actuator saturation in integrated vehicle control [C.74], [C.84], [I.48];
8. Dynamic control applied to the laboratory antilock braking system [I.35], [I.39], [I.45], [I.76], [C.95], [C.106], [C.126];
9. Nonlinear adaptive controller applied to an antilock braking system with parameters variations [I.50];
10. Tyre–road friction coefficient estimation based on smart tyre lateral deflection measurements [C.93];
11. Mechatronic design and implementation of a bicycle virtual reality system [I.57];
12. Integrated active control of electric vehicles [C.120];
13. Active attitude control of ground vehicles with partially unknown model [C.121], [I.70];
14. Quantized sampled–data attitude control of ground vehicles [I.75].

These works have been carried out in collaboration with: Maria Domenica Di Benedetto (Department of Information Engineering, Computer Science and Mathematics, L'Aquila); Bernardino Castillo (Centro de Investigación y de Estudios Avanzados del I.P.N., Guadalajara); Cuauhtemoc Acosta Lúa (Universidad de Guadalajara, CUCI, Ocotlán); Jorge Rivera (Centro de Investigación y de Estudios Avanzados del I.P.N., Guadalajara), Riccardo Cespi (Instituto Tecnologico de Monterrey, Monterrey).
Works: [I.26], [I.38], [I.39], [I.43], [I.45], [I.46], [I.50], [I.48], [I.49], [I.56], [I.57], [I.58], [I.68], [I.69], [I.70], [I.75], [I.76], [C.51], [C.57], [C.61], [C.62], [C.63], [C.71], [C.74], [C.84], [C.86], [C.95], [I.35], [C.93], [C.95], [C.106], [C.120], [C.121], [C.126].

IX. Autonomous driving. Main results:

1. Vehicle reference generator for collision–free trajectories in hazardous maneuvers [I.54], [I.55], [C.114].

These works have been carried out in collaboration with: Cuauhtemoc Acosta Lúa (Universidad de Guadalajara, CUCI, Ocotlán).
Works: [I.54], [I.55], [C.114].

X. Nonlinear control of nuclear reactors and energy management. Main results:

1. Nonlinear control of pressurized water reactors [I.66], [C.77];
2. Digital nonlinear control for pressurizers in a pressurized water reactor [C.81], [C.88], [C.98], [C.99];
3. Control of physical processes in experimental facilities of nuclear plants using hardware–in–the–loop simulations [C.85], [C.89], [C.92];
4. Backstepping control for multilevel STATCOM [C.119].

These works have been carried out in collaboration with: Mauro Cappelli, (Department of Fusion and Nuclear Safety, ENEA, Frascati); Bernardino Castillo (Centro de Investigación y de Estudios Avanzados del I.P.N., Guadalajara).
Works: [I.66], [C.77], [C.80], [C.81], [C.82], [C.85], [C.92], [C.88], [C.89], [C.99], [C.98], [C.119], [R.14], [R.15], [R.16], [R.17], [R.18], [R.1], [T.1].

XI. Biologic applications. Main results:

1. Automated classification of EEG signals for the detection of epileptic seizures using wavelet transform and statistical pattern recognition [I.32];
2. Detection of epileptiform activity in EEG signals based on time–frequency and nonlinear analysis [I.40];
3. Stabilizability analysis of the behavior of a chaotic system representing tumor dynamics using a Lyapunov approach [C.90], [C.94];
4. Quantized Sampled–data static output feedback control of the glucose–insulin system (see point IV.3);

These works have been carried out in collaboration with: Jean–Pierre Barbot (École Nationale Supérieure de l'Electronique et de ses Applications, France), and Dragoljub Gajic (University of L'Aquila).
Works: [I.32], [I.40], [see point IV.3], [C.90], [C.94].

XII. Robotic exoskeleton for rehabilitation. Main results:

1. Control of exoskeleton robot for passive rehabilitation [C.112], [C.113].

These works have been carried out in collaboration with: Maarouf Saad (École de Technologie Supérieure, Quebec, Canada).
Works: [C.112], [C.113].

XIII. Optimization of new materials. Main results:

1. Modelling and optimization of methylene blue adsorption from aqueous solution using bentonite clay [C.91];

These works have been carried out in collaboration with: Dragoljub Gajic (University of L'Aquila).
Works: [C.91].

XIV. Production and energy optimization in stainless steel industry. Main results:

1. Production and energy optimization [C.96], [C.97], [C.103], [I.53];
2. Early bearing fault detection and diagnosis [C.104], [C.107], [C.108], [I.42], [I.52];
3. Modeling using artificial neural networks [C.105], [I.44].

These works have been carried out in collaboration with: Dragoljub Gajic (University of L'Aquila).
Works: [I.42], [I.44], [I.52], [I.53], [C.96], [C.97], [C.103], [C.104], [C.105], [C.107], [C.108].

List of the Supervision Activities for Research

Postdoctoral Research Grants

1. Type: Research grant for senior researcher. Grant: **€ 97.812,00**. Period: 3 years (2020–2023).
   Project description: Development of intelligent control techniques for agents in partially structured scenarios. The project aims at the development of intelligent control techniques for agents in partially structured scenarios. The major emphasis will be given to collaborative drones in applications such as precision agriculture and applications with industrial or, anyway, engineering interest. Also, the transport sector, vehicular or aerial, will be analyzed for collaborative and synergic actions. These research activities will be contextualized in the framework of future research projects, national or international. Furthermore, it will regard research dissemination actions, both in the classic contexts of congresses, journals, etc., and higher education contexts.
   Collaborations: Centro de Investigación y de Estudios Avanzados del IPN, Unidad Guadalajara, Mexico; Universidad de Guadalajara, Centro di Ocotlán, Mexico.

Research Grants

1. Type: Research grant for young researcher. Grant: **€ 25,800.00**. Period: 2 year (2020–2021–2022).
   Project description: FPGA implementation of digital controllers for applications for drones.
   Collaborations: partners of the Comp4Drones project.
2. Type: Research grant for young researcher. Grant: **€ 24,000.00**. Period: 18 months year (2020–2022).
   Project description: Observability and observer synthesis for commuting systems in the scale time domain.
   Collaborations: Université Polytechnique Hauts–de–France, Valenciennes, France.
3. Type: Research grant for young researcher. Grant: **€ 16,300.00**. Period: 14 months (2019–2020).
   Project description: Electronic System–Level HW/SW Co–Design.
   Collaborations: partners of the Comp4Drones project.
4. Type: Research grant for young researcher. Grant: **€ 12,000.00**. Period: 1 year (2019–2020).
   Project description: FPGA implementation of digital controllers for applications for drones and vehicles.
   Collaborations: partners of the Comp4Drones project.
5. Type: Research grant for young researcher. Grant: **€ 21,600.00**. Period: 20 months (period: 2020–2021).
   Project description: Explainable End–to–End Autonomous Vehicles.
   Collaborations: partners of the Comp4Drones project.

Ph.D. Theses

1. Nabil Karania (started 11/2020). Co–tutored (double degree). Subject (provisional title): Active Photovoltaic Control for Smart Grids.
2. Subham Dey (started 11/2019). Co–tutored (double degree). Subject (provisional title): Observability and observer synthesis for systems with commutations evolving in the non–uniform temporal domain.
3. Luis Alfonso Álvarez Canabal (started 9/2019). Co–tutored (double degree). Subject (provisional title): Hybrid Regulation: Application for Permanent–Magnet Synchronous Motors.
4. Horacio de Jesús García Vázquez (started 9/2019). Co–tutored (double degree). Subject (provisional title): Impulsive observers for agent coordination.
5. Ulises Larios Navarro (started 9/2020). Subject (provisional title): Regulation for agent coordination.
6. Oscar David Jaramillo Zuluaga Ph.D. (started 9/2017). Co–tutored (double degree). Subject: On the Problem of Designing Impulsive Observers for a Class of Uncertain Nonlinear Systems.
7. Salvador Martín Baragano, Ph.D. (started 9/2015). Subject: Control of Wind Turbines. Presentation: The high–order sliding mode technique is exploited for the control of a wind turbine with a permanent magnet synchronous generator. The wind turbine is subject to the variation of all the parameters appearing in its mathematical model. Furthermore, the wind velocity is assumed not available for measurement. This is a situation of interest in practical applications, where only the nominal parameter values can be considered known. Moreover, in practical cases, the wind velocity can not be measured with accuracy since, even in the presence of appropriate sensors, the wind velocity field is perturbed by the turbine itself. The problem solved in this work regards the tracking of the reference angular velocity corresponding to the wind velocity. In this case, a compensation of the perturbative terms due to the parameter uncertainties and the wind estimation error have to be appropriately compensated in order to obtain an accurate tracking. For, an estimator of the wind velocity is used, along with high–order sliding mode estimators in order to obtain high performance of the turbine.

8. Riccardo Cespi, Ph.D. (2014–2018). Co–tutored (double degree). Subject: Neural Network Based Inverse Optimal Control of Ground Vehicle. Presentation: an active controller can force a vehicle to track a desired reference, ensuring safe driving conditions in the case of adhesion loss and hazardous maneuvers. In this context, a nonlinear discrete–time inverse optimal control based on a neural network identification can be designed using a Recurrent High Order Neural Network (RHONN), trained by a modified version of the Extended Kalman Filter. This RHONN ensures the stability of the identification error, while the controller ensures the stability of the trajectories tracking errors. The lateral velocity and yaw rate references are generated by a dynamic system mimicking the vehicle to be controlled. This approach avoids the identification of the Pacejka's lateral parameters of the tyres, so simplifying the input control determination. Moreover, an optimal control can be used to optimize the actuator effort and power, usually bounded. Test maneuvers, performed through the full vehicle simulator CarSim, show the correctness, quality and performances of both the identifier and the controller.
9. Tarek Kabbani, Ph.D. (2014–2017). Subject: Vehicle to vehicle communication control. Presentation: An automated trajectory planning can incorporate the logical decision–making phase of a Cooperative Collision Avoidance (CCA) system, to avoid design errors caused by traditional methods. The temporal logic expressive language of linear temporal logic (LTL) is used to write specifications and automatically synthesis a logical controller strategy for the vehicle, or in another words, a specification–correct controller automaton. The trajectory is represented by a sequence of acceptable states respecting the specification. Later this automaton is implemented by an optimal controller to generate a reference to be followed by the vehicle using another discrete–time controller. The performance of this approach can be tested in the so–called 'elk test scenario', showing satisfactory results.
10. Humberto Valadez Rangel, Ph.D. (2013–2017). Co–tutored (double degree). Subject: Control of nonlinear systems with digital controls over a network. Presentation: The problem of the stabilization of dynamic systems is one of the most important topics of control theory. The convergence of rigorous techniques of non–commutative algebra, geometries and control, allowed developping a set of elegant and efficient tools, which can be used to study networked control systems. In practice, networks are digital, and sliding–mode control variations provides a viable option for the implementation and solution for the stabilization problem of networked nonlinear control systems. The fundamental mathematical tool that can be used is based in the Lie algebraic result known as exponential theorem, or Campbell–Baker–Hausdorff–Dynkin formula, used in many fields of mathematics. The control variation can be seen as a sample data controller whose trajectories are concatenations of smooth curves. These trajectories are well approximated by an associated infinitesimal system. At the sample times the system trajectory coincides with those of the infinitesimal system. Hence the strategy of control consists of stabilizing the infinitesimal system which implies stability of the original sample–data nonlinear system for small sample times. Conditions can be provided for the control variation under variable transmission sequence, so that the networked control system stabilization problem is solved by control variation.
11. Lucien Etienne, Ph.D. (2012–2015). Co–tutored (double degree). Subject: Control of Networked Systems: Application to Active Vehicle Control. Presentation: A problem arising in the design of high performance controllers is the presence of a wireless channel used for feedback. It is necessary to consider the wireless channel and compensate the effects due to the communication imperfections (packet drops, variable sampling/transmission intervals, variable communication delays). Variable sampling can also be used to consider stability properties and constraints due to band–limitations of the communication channels, possible limited power of the batteries powering the wireless sensors in the infrastructure, power aware control algorithms to reduce energy consumption, transmission of the continuous–time signals over the network.
12. Dragoljub Gajic, Ph.D. (2012–2015). Co–tutored. Subject: Development of a new technique for detection of epileptiform activities in EEG signals as well as their classification. Presentation: The proposed technique consists of four main steps: preprocessing, feature extraction from a few sub–bands and domains of interest, dimension reduction in feature space, and classification by quadratic classifiers. The proposed technique was tested on the EEG data sets recorded at the University Hospital Bonn, Germany and an overall accuracy of 98% was achieved. The results confirmed that the proposed technique has a potential for detection of epileptiform activities and classification of EEG signals, and thus could further improve the diagnosis of epilepsy. Other activities: 1. Production and energy optimization in stainless steel industry (development of an advanced system for production and energy optimization in melt shop, with optimal coordination between different production stages as well as identification of new energy saving opportunities in melt shop – in close cooperation with ABB Corporate Research Center in Germany and the stainless steel plant in Terni, Italy where the method was successfully tested); 2. Optimization of new materials (optimization of new materials for thermal energy storage and waste water treatment in cooperation with the Faculty of Technology, University of Nis, Serbia).
13. Graciela Sandoval Castro, Ph.D. (2006–2009). Co–tutored (double degree). Subject: Control of Sampled Systems with Delays. Presentation: This thesis presents a novel approach for compensating input time–delays for linear and nonlinear systems, using a digital predictor–based controller. In the linear case, the problem of stabilizing a sampled continuous system by means of this digital controller is addressed. The predictor is capable of compensating the delay of sampled and continuous model as well. In the nonlinear case, the digital predictor–dynamics controller is designed making use of an approximated representation

of the sampled system dynamics. The conditions under which such a controller ensures the stability, are the existence of a stabilizing controller when delay is zero, and the "closeness" of the exact and approximated sampled dynamics.

14. Cuauhtemoc Acosta Lúa, Ph.D. (2005–2008). Co–tutored. Subject: Output Feedback Regulation of Electromagnetic Valves for Camless Engines. Presentation: Conventional internal combustion engines use mechanical camshafts to command the opening and closing phases of the intake and exhaust valves. The lift valve profile is designed in order to reach a good compromise among various requirements of the engine operating conditions. In principle, optimality in every engine condition can be attained by camless valvetrains. Electromagnetic valves appear to be promising, although there are some relevant open problems. In fact, in order to eliminate acoustic noises and avoid damages of the mechanical components, the control specifications require sufficiently low impact velocities between the valve and the constraints (typically the valve seat), so that "soft-landing" is obtained. In this thesis, the soft–landing problem is translated into a regulation problem for the lift valve profile, by imposing that the valve position tracks a desired reference, while the modeled disturbances are rejected. The submanifold characterized by the zeroing of the tracking error and the rejection of the disturbance, is determined. Finally, the stabilization problem of the system trajectory on such a manifold is solved. The problem of output regulation is solved using measurable outputs, since in practice one wants to avoid the use of valve position and velocity sensors. In fact, one of the main problem of camless engines is due to the fact that the valve position and velocity sensors cannot be placed inside the engine, due to limitations of space and, especially, to the price of the sensors. Moreover, for similar reasons one wants to avoid the use of pressure sensors in the cylinders.
15. Alessandro D'Innocenzo, Ph.D. (2004–2006). Co–tutored. Subject: Observability and temporal properties of hybrid systems: analysis and verification. Presentation: The verification of some structural properties of hybrid systems are discussed. Hybrid systems have both discrete and continuous aspects in their dynamics, and are very useful in the analysis of embedded system, to design a digital controller (where the continuous plant satisfies some prescribed specifications). Their great expressive power has to be paid by the lack of strong theoretical results about their behavior, and consequent difficulties in verifying the properties of the closed loop system. In fact, formal verification of properties where the state space is semi–exhaustively searched are complicated by the very large size of the state space. The problem of formal verification for hybrid systems is addressed, in particular, the properties of observability and observability, and general properties expressible by means of temporal logic formulae (e.g. reachability, safety, and more complex properties such as liveness).

M.Sc. Theses (last 10 years)

1. Maksym Lynnyk, M.Sc. degree (2023). Subject: To be defined.
2. Luca Anastasio, M.Sc. degree (2023). Subject: Integration of DPDK for real–time communication in the orbit feedback system of the Elettra synchrotron.
3. Jimena Jimenez Hernandez, M.Sc. degree (2022). Subject: Analysis of electrical safety requirements for electric vehicles and implementation of electrical risk safety measures.
4. Yucheng Li, M.Sc. degree (2022). Subject: Control of automated driving in motion planning.
5. Ivan Permiakov, M.Sc. degree (2022). Subject: Optimal control of electric vehicle fleet charging: multi–objective and meta-heuristic algorithms for weight tuning of the cost function for charging schedule.
6. Gildardo Mejía Álvarez, M.Sc (2021). degree (Co–tutored, Cinvestav–Guadalajara 2020). Subject: Application of impulsive observer for structurally stable regulation.
7. Davide Finocchi, M.Sc. degree (2020). Subject: Development of a simulative environment of the dynamics of collaborative drones. Industrial stage at Tekne S.r.l., Italy.
8. Ulises Larios Navarro, M.Sc. degree (Co–tutored Cinvestav–Guadalajara, 2019). Subject: Landing control of drones on mobile surfaces.
9. Massimo Di Felice, M.Sc. degree (2018). Subject: Stabilizability of tumor dynamics.
10. Oscar David Jaramillo Zuluaga, M.Sc. degree (Co–tutored Cinvestav–Guadalajara, 2017). Subject: Robust impulsive observers for nonlinear systems.
11. David Antonio Martínez Carrillo, M.Sc. degree (Co–tutored Cinvestav–Guadalajara, 2017). Subject: Accident avoidance strategies for vehicles.
12. Gerardo de Jesus Díaz, M.Sc. degree (Co–tutored Universidad de Guadalajara–Ocotlán, 2017). Subject: Formation control of drones.
13. Carlos López Cortés, M.Sc. degree (Co–tutored Cinvestav–Guadalajara, 2017). Subject: Vision–based control of drones.
14. Luca Michele Gallo, M.Sc. degree (2015). Subject: Design and implementation of control algorithms for cooperative collision avoidance for robotic systems.
15. Pierangela Pasqualucci, M.Sc. degree (2014). Subject: Fault tolerant and self reconfiguring controllers for avionic systems.

16. Andrea Franceschini, M.Sc. degree (2013). Subject: Active attitude control of ground vehicles with wireless smart tire sensors and performance evaluation in CarSim.
17. Corrado Marinelli, M.Sc. degree (2013). Subject: Stochastic fault tolerant and self reconfiguring controller applied to avionic systems.

B.Sc. Theses (last 10 years)

1. Andrea Ferella, B.Sc. degree (2020). Subject: Cooperative Payload Transportation Using Aerial Vehicles.
2. Davide Di Rico, B.Sc. degree (2020). Subject: Tokamak Plasma Control for Nuclear Fusion Experiments.
3. Catriel de Biase, B.Sc. degree (2020). Subject: Navigation of autonomous systems.
4. Luca Visconti, B.Sc. degree (2020). Subject: Navigation of autonomous systems.
5. Luca Anastasio, B.Sc. degree (2019). Subject: Water level controller for the primary circuit of a PWR: digital implementation on FPGA.
6. Lorenza Mammarella, B.Sc. degree (2018). Subject: Control of drone via video image feedback.
7. Giulio Silvagni, B.Sc. degree (2018). Subject: Implementation of controllers for drone aggressive maneuvers.
8. Davide Dionisi, B.Sc. degree (2018). Subject: Implementation of digital controllers for drones.
9. Pasquale Di Giacinto, B.Sc. degree (2017). Subject: Control of synchronous and asynchronous wind turbines.
10. Bello Cataldo, B.Sc. degree (2016). Subject: Fault diagnosis in vehicular string stability.
11. Riccardo Poscente, B.Sc. degree (2015). Subject: Controller design for the cooperative collision avoidance.
12. Caruso Federica, B.Sc. degree (2015). Subject: Models of protocols for the management of critical situations in vehicular transport.

Summary of the Socio–Economic Impacts and Transfers

Action 1. Consulting contract between Selenia Communications and the Dipartimento di Ingegneria Elettrica e dell'Informazione, University of L'Aquila, in the frame of Project "Studio e Realizzazione di una Rete Autoadattiva ad Alta Sopravvivenza basata su Sensori Decisionali" of the Italian Ministry of the Economic Development. Size: ∼30 persons, ∼€ 800.000,00.

Framework: Multi–partner industrial research project.

Interlocutors: Ing. Giuseppe Ocera (manager of the design group 'Analog and radio–frequency sub–systems' Selenia Communications, former Marconi–Selenia Communications).

Personal role: Report on the potentials, characteristics, and use of RAM Plus™(Release 5.24, from ISA Software; RAM Plus is an ATM simulator, also used by Eurocontrol, providing a comprehensive range of ATM fast–time simulation capabilities) entitled "Techniques and Technologies for Surveillance" (October 2005), in the WorkPackage "Simulation and Test Environments".

Action 2. Consulting contracts between the ENEA–Casaccia and the Center of Excellence DEWS, University of L'Aquila, in the frame of the project "Piano Triennale della Ricerca e Sviluppo di Interesse Generale per il Sistema Elettrico Nazionale 2009–2011" of the Italian Ministry of the Economic Development. Global size: unknown, ∼70.000.000,00 €/year.

2.a. "Project 1.3.2.a – Nuclear Fission: Analysis and Verification Methods of Nuclear Pressurized Water Reactors of Evolutive Generation", Research Contract PAR2010 "Analysis of the Supervision, Control and Protection Systems in Pressurized Water Reactors of New Generation" with the Research Center of ENEA–Casaccia, from 2010 to 2011. Size: 5 persons, € 90.000,00.

2.b. "Project 1.3.1 – New Nuclear Fission: International Collaborations and Competences Developments in Nuclear Field", Research Contract PAR2011 "Study, design and realization of supervisory, control and protection systems for performance and safety improvements of novel nuclear plants" with the Research Center of ENEA–Casaccia, from 2011 to 2012. Size: 5 persons, € 40.000,00.

Framework: Industrial/Academic research project of the Italian Ministry of the Economic Development

Interlocutors: Ing. Massimo Sepielli (Head of Nuclear Department (UTFISST) in ENEA).

Personal role: Principal investigator.

Objective and impact: Production of deliverables. The action has fulfilled the demanded consultancy.

Action 3. Development agreement between Ford Forschungszentrum Aachen GmbH and the Center of Excellence DEWS, University of L'Aquila, named "Analysis of Control Architectures for Yaw and Lateral Stability of a Vehicle", Research Contract with the Research Center of Ford Aachen, Dept. of Vehicle Electronics & Controls, Ford Forschungszentrum Aachen GmbH, Germany, from 2008 to 2009. Size: 6 persons, € 25.000,00.

Framework: Industrial research project.

Interlocutors: Ing. Gilberto Burgio (Global Vehicle Dynamics, Ford Research & Advanced Engineering Europe).

Personal role: Principal investigator.

Objective and impact: Production of deliverables. The action has fulfilled the demanded consultancy.

Action 4. Research agreement between Magneti Marelli S.p.A. and the Center of Excellence DEWS, University of L'Aquila, "Control and Optimization Nonlinear Techniques Applied to Engine Control Systems", from 1996 to 2005. Size: 5 persons, ∼€ 20.000,00 per year.

Framework: Industrial research project.

Interlocutors: Ing. Giovanni Gaviani (V.P. Business Development & Marketing)

Personal role: Investigator.

Objective and impact: Production of deliverables. The action has fulfilled the research activity.

Action 5. Consulting contract between Indesit Company and the Dipartimento di Ingegneria Elettrica e dell'Informazione, University of L'Aquila, in the frame of the Project EROD Indesit Company – University of L'Aquila "Sensorless control of a permanent magnet motor for washing machine". Size: 6 persons, ∼€ 30.000,00.

Framework: Industrial research project.

Interlocutors: Ing. Alessio Beato, Ing. Danilo D'Antonio (Indesit Company).

Personal role: Investigator.

Action 6. Supervision of Ph.D. student at ThyssenKrupp Acciai Speciali Terni, Italy.

Framework: Ph.D. Thesis in industry.

Personal role: Co–Advisor of Dragoljub Gajic, Ph.D. student (started in 2012).

Objective and future impact: Energy savings in steel industry by integrated production. The research should create new methods and improve existing methods to optimally integrate the production across the steel plant with the aim of cutting down the total energy requirements and emissions, by means of optimal coordination control and identification between the melt shop and hot rolling mill.