

Complete List of Prof. Silvio Simani's Bibliographical References

Last Update: January, 2025

References

- Abbasi Nozari, H., P. Castaldi, S. J. Sadati Rostami and S. Simani (2022). Hybrid robust fault detection and isolation of satellite reaction wheel actuators. *Journal of Control and Decision* **2022**(1), 1–15. ISSN: 2330-7714. DOI: 10.1080/23307706.2022.2143445.
- Abbasi Nozari, H., S.J. Sadati Rostami, P. Castaldi and S. Simani (2024). Hybrid robust fault detection and isolation of satellite reaction wheel actuators. *Journal of Control and Decision* **11**(1), 117–131.
- Asl, R. M., Y. S. Hagh, S. Simani and H. Handroos (2019). Adaptive square-root unscented Kalman filter: An experimental study of hydraulic actuator state estimation. *Mechanical Systems and Signal Processing* **132**(1), 670–691. DOI: 10.1016/j.ymsp.2019.07.021.
- Ayala, E. and S. Simani (2022a). Perturb and observe maximum power point tracking algorithm for permanent magnet synchronous generator wind turbine systems. In: *15th European Workshop on Advanced Control and Diagnosis (ACD 2019)* (E. Zattoni, S. Simani and G. Conte, Eds.). Lecture Notes in Control and Information Sciences – Proceedings. Springer, Cham.. Bologna, Italy. pp. 1007–1017. ISBN: 978-3-030-85318-1. DOI: 10.1007/978-3-030-85318-1_59.
- Ayala, E. and S. Simani (2022b). Robust control design solution for a permanent magnet synchronous generator of a wind turbine model. In: *Proceedings of the 11th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS 2022* (S. Timotheou, Ed.). Vol. 55 of *IFAC-PapersOnLine*. IFAC. Elsevier. Pafos, Cyprus. pp. 569–574. ISSN: 2405-8963. DOI: 10.1016/j.ifacol.2022.07.189.
- Ayala, E., N. Pozo, S. Simani and E. Munoz (2021). Direct Speed Control Scheme for Maximum Power Point Tracking of a 1.5MW DFIG Wind Turbine. In: *Proceedings of the 6th Brazilian Technology Symposium (BTSym'20)*. *BTSym 2020* (Y. Iano, O. Saotome, G. Kemper, A. C. Mendes de Seixas and G. Gomes de Oliveira, Eds.). Vol. 233 of *Smart Innovation, Systems and Technologies*. Chap. 101, pp. 918–928. Springer. Cham, Germany. ISBN: 978-3-030-75680-2. DOI: 10.1007/978-3-030-75680-2-100.

- Ayala, Edy and Silvio Simani (2019). Perturb and observe maximum power point tracking algorithm for permanent magnet synchronous generator wind turbine systems. In: *Proceedings of the 15th European Workshop on Advanced Control and Diagnosis – ACD 2019* (G. Conte, Ed.). Lecture Notes in Control and Information Sciences – Proceedings. Alma Mater Studiorum, University of Bologna. Springer. Bologna, Italy. pp. 1–11.
- Baldi, P., M. Blanke, P. Castaldi, N. Mimmo and S. Simani (2015). Combined Geometric and Neural Network Approach to Generic Fault Diagnosis in Satellite Reaction Wheels. In: *Proceedings of the 9th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS’15* (IFAC, Ed.). Vol. 48. IFAC. Paris, France. pp. 194–199. DOI: 10.1016/j.ifacol.2015.09.527. ISBN: 978–3–642–27644–6. ISSN: 1474–6670. Special session invited paper.
- Baldi, P., M. Blanke, P. Castaldi, N. Mimmo and S. Simani (2016a). Adaptive FTC Based on Control Allocation and Fault Accommodation for Satellite Reaction Wheels. In: *Proceedings of the 3rd International Conference on Control and Fault-Tolerant Systems – SysTol’16* (IEEE Control Systems Society, Ed.). Research Center for Supervision, Safety and Automatic Control of the Universitat Politècnica de Catalunya in Barcelona. IEEE. Barcelona, Spain. pp. 672 – 677. ISBN: 978–5090–0657–1. ISSN: 2162–1209. DOI: 10.1109/SYSTOL.2016.7739826. Special session invited paper.
- Baldi, P., M. Blanke, P. Castaldi, N. Mimmo and S. Simani (2016b). Combined Geometric and Neural Network Approach to Generic Fault Diagnosis in Satellite Actuators and Sensors. In: *Proc. of the 20th IFAC Symposium on Automatic Control in Aerospace – ACA 2016*. Vol. 49. IFAC – International Federation of Automatic Control. Elsevier. Sherbrooke, Quebec, Canada. pp. 432–437. DOI: 10.1016/j.ifacol.2016.09.074. ISSN: 2405-8963.
- Baldi, P., M. Blanke, P. Castaldi, N. Mimmo and S. Simani (2018a). Fault Diagnosis for Satellite Sensors and Actuators using Nonlinear Geometric Approach and Adaptive Observers. *International Journal of Robust and Nonlinear Control* **29**(16), 5429–5455. DOI: 10.1002/rnc.4083. Special Issue: Fault Diagnosis and Fault-Tolerant Control in Aerospace Systems.
- Baldi, P., N. Mimmo, P. Castaldi and S. Simani (2012). Aerodynamic decoupled FDI for frequency faults in earth satellite engines. In: *8th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes – SAFEPROCESS 2012* (C. M. Astorga-Zaragoza and A. Molina, Eds.). Vol. 8. Instituto de Ingeniería, Circuito escolar, Ciudad Universitaria, CP 04510, México D.F.. IFAC. Mexico City, Mexico. pp. 1095–1100. Invited session paper. ISBN: 978–3–902823–09–0. ISSN: 1474–6670. DOI: 10.3182/20120829-3-MX-2028.00178.
- Baldi, P., P. Castaldi and S. Simani (2010a). Fault Diagnosis and Control Reconfiguration in Earth Satellite Model Engines. In: *Proceedings of the 9th UKACC International Conference on CONTROL 2010* (K. J. Burnham and V. E. Ersanilli, Eds.). number ThB3.2. Control Theory and Applications Centre (CTAC).

- Coventry University, Coventry, UK. Coventry University, Coventry, UK. Coventry University, Coventry, UK. pp. 114–119. Invited paper. Special session on "Model-based FDI/FTC strategies for aerospace missions. ISBN: 978-1-84600-038-6. DOI: 10.1049/ic.2010.0266.
- Baldi, P., P. Castaldi, N. Mimmo, A. Torre and S. Simani (2011). A New Longitudinal Flight Path Control with Adaptive Wind Shear Estimation and Compensation. In: *Proceedings of the 2011 50th IEEE Conference on Decision and Control and European Control Conference (CDC-ECC)*. Vol. 6. IEEE CSS EUCA. IEEE CSS EUCA. Orlando, FL, USA. pp. 6852–6857. Invited paper. DOI: 10.1109/CDC.2011.6160900. ISBN: 978-1-4673-0457-3. IEEE Catalog Number: CFP11CDC-USB.
- Baldi, P., P. Castaldi, N. Mimmo and S. Simani (2013). Satellite Attitude Active FTC Based on Geometric Approach and RBF Neural Network. In: *Proceedings of the 2nd International Conference on Control and Fault-Tolerant Systems – SysTol'13* (IEEE Control Systems Society, Ed.). Centre de Recherche en Automatique de Nancy – CRAN. IEEE. Nice, France. pp. 667–637. Special session invited paper. ISBN: 978-1-4799-2854-5.
- Baldi, P., P. Castaldi, N. Mimmo and S. Simani (2014a). Generic wind estimation and compensation based on NLGA and RBF-NN. In: *Proceedings of the 13th European Control Conference – ECC14*. EUCA, IEEE, CSS, IFAC. IEEE. Strasbourg, France. pp. 1729–1734. ISBN: 978-3-9524269-1-3. Special session invited paper. DOI: 10.1109/ECC.2014.6862272.
- Baldi, P., P. Castaldi, N. Mimmo and S. Simani (2017). Combined singular perturbations and nonlinear geometric approach to FDI in satellite actuators and sensors. In: *Proceedings of the 20th World Congress of the International Federation of Automatic Control – IFAC 2017* (V. COCQUEMPOT, S. TARBOURIECH and L. ZACCARIAN, Eds.). Vol. 50. LAAS – CNRS – Laboratoire d'Analyse et d'Architecture des Systemes. IFAC Elsevier. pp. 7253–7259. DOI: 10.1016/j.ifacol.2017.08.1375.
- Baldi, P., P. Castaldi, N. Mimmo and S. Simani (2018b). Satellite Attitude Fault Tolerant Control with Aerodynamic Disturbance Decoupling. In: *Proc. of the European Control Conference – ECC18* (L. Menini and A. Serrani, Eds.). IEEECSS & IFAC. Elsevier. Limassol, Cyprus. pp. 2744–2750. ISBN: 978-3-9524-2699-9.
- Baldi, P., P. Castaldi, N. Mimmo and Silvio Simani (2014b). A New Aerodynamic Decoupled Frequency FDIR Methodology for Satellite Actuator Faults. *International Journal of Adaptive Control and Signal Processing* **28**(9), 812–832. Invited Paper for the Special Issue on "Emerging Trends in Active Methods for Fault Tolerant Control". John Wiley & Sons, Ltd. ISSN: 0890-6327. DOI: 10.1002/acs.2379.
- Baldi, P., P. Castaldi, S. Simani and G. Bertoni (2010b). Fault Diagnosis and Control Reconfiguration for Satellite Reaction Wheels. In: *Proceedings of the Conference*

- on Control and Fault Tolerant Systems – SysTol’10* (Jean-Philippe Georges, Ed.). number WeB1.5. CRAN, IEEE CSS, French GIS 3SGS & GDR MACS. 2010 IEEE. Nice, France. pp. 143–148. ISBN: 978–1–4244–8152–8. DOI: 10.1109/SYSTOL.2010.5676066.
- Beghelli, S., C. Fantuzzi and S. Simani (2000). Metodi Qualitativi per la Diagnosi dei Guasti nei Processi Industriali. In: *Prevenire la Manutenzione per Ridurre i Guasti*. A.I.MAN. Associazione Italiana Manutenzione. Ferrara, Italy. pp. 1–9. In Italian.
- Beghelli, S., G. Bertoni, M. Bonfè, P. Castaldi, W. Geri and S. Simani (2005a). Design of residual generators for the fault diagnosis of general aviation aircraft. In: *MONET Newsletter: European Network of Excellence on Model-based Systems and Qualitative Reasoning*. Vol. Issue 6 of ISSN 1464–9276. EC Research Programme 5 under the IST Programme. United Kingdom. pp. 10–18. (URL: <http://monet.aber.ac.uk>).
- Beghelli, S., G. Bertoni, M. Bonfè, P. Castaldi, W. Geri and S. Simani (2005b). Residual generation for small commercial aircraft fault diagnosis. In: *XVIII National Congress A.I.D.A.A.*. Astronautical and Aeronautical Italian Association. Volterra, Italy. (URL: <http://www.aidaa.it/>).
- Beghelli, S., M. Benini and S. Simani (2007a). Residual Generator Design for the FDI of Linear Multivariable Dynamic Systems. In: *European Control Conference 2007 – ECC’07* (ICCS EUCA, Ed.). Vol. CD–Rom. EUCA, ICCS, IFAC, ACPA & IEEE CSS. IEEE. Kos, Greece. pp. 2288–2295. ISBN: 978–3–9524173–8–6.
- Beghelli, S., M. Benini, G. Bertoni, M. Bonfè, P. Castaldi, W. Geri and S. Simani (2007b). Design of robust fault diagnosis schemes for a simulated aircraft nonlinear model. In: *5th Workshop on Advanced Control and Diagnosis – ACD2007*. Vol. CD–Rom. IAR – Institute for Automation and Robotics, ICD Working Group. Grenoble, France. pp. 1–6. Organized by IAR ICD Working Group.
- Beghelli, S., M. Bonfè and S. Simani (2005c). Fault diagnosis and isolation for dynamic process sensors. In: *Mensile di Tecnica e Informazione edita dalla Associazione Ingegneri e Architetti di Bologna* (Associazione Ingegneri e Architetti di Bologna, Ed.). Associazione Ingegneri e Architetti di Bologna. Ingegneri Architetti Costruttori. pp. 1–4. URL: <http://www.inarcos.net/>.
- Beghelli, S., R. Bettocchi, C. Fantuzzi, P. R. Spina and S. Simani (1998). Diagnosi di guasti ai sensori con tecniche di ridondanza analitica. In: *Tecniche di Analisi per la Manutenzione di Impianti Industriali*. A.I.MAN. Associazione Italiana Manutenzione. Ferrara, Italy. pp. 15–26. In Italian.
- Benini, B., P. Castaldi and S. Simani (2009). *Fault Diagnosis for Aircraft System Models: An Introduction from Fault Detection to Fault Tolerance*. 1st ed.. VDM Verlag Dr. Müller Aktiengesellschaft & Co. KG.. Dudweiler Landstr, 99. 66123 – Saarbrücken, Germany. ISBN: 978–3–639–21364–5. <http://www.vdm-publishing.com/>.

- Benini, M., M. Bonfè, P. Castaldi, W. Geri and S. Simani (2008a). Design and Performance Evaluation of Fault Diagnosis Strategies for a Simulated Aircraft Nonlinear Model. *Journal of Control Science and Engineering* **2008**, 1–18. Special Issue on “Robustness Issues in Fault Diagnosis and Fault Tolerant Control”. Published by Hindawi Publishing Corporation. ISSN (printed): 1687-5249. ISSN (electronic): 1687-5257.
- Benini, M., M. Bonfè, P. Castaldi, W. Geri and S. Simani (2008b). Fault Diagnosis Strategies for a Simulated Nonlinear Aircraft Model. In: *Proceedings of the 17th IFAC World Congress* (Myung Jin Chung, Pradeep Misra and Hyungbo Shim, Eds.). Vol. 17. The International Federation of Automatic Control (IFAC). IFAC. Seoul, South Korea. pp. 7300–7307. ISBN: 978–1–1234–7890–2. DOI: 10.3182/20080706–5–KR–1001.01235.
- Bertoni, G., N. Bertozzi, P. Castaldi and S. Simani (2010a). A Nonlinear Guidance and Active Fault Tolerant Control System for a Fixed Wing Unmanned Aerial Vehicle. In: *Proceedings of the 2010 American Control Conference – ACC2010* (IEEE IFAC, AACC, Ed.). number WeB01.5. AACC, IEEE. AACC IEEE Omnipress. Baltimore, Maryland, USA. pp. 812–817. ISBN: 978–1–4244–7425–7. ISSN: 0743–1619. DOI: 10.1109/ACC.2010.5530953.
- Bertoni, G., N. Bertozzi, P. Castaldi, M. E. penati, M. Bonfè and S. Simani (2011). Integrated Design of an Aircraft Guidance System Using Feed–back Linearisation. *International Russian–American Journal "Actual Problems Of Aviation and Aerospace Systems: processes, models, experiment"* **16**(2(33)), 85–94. International Federation of Nonlinear Analysis. ISSN: 1727–6853, Kazan–Daytona Beach. Invited paper.
- Bertoni, G., P. Castaldi, N. Mimmo and S. Simani (2010b). Active Fault Tolerant Control System for a High Accuracy Planet–Image Satellite. In: *Proceedings of the 18th IFAC Symposium on Automatic Control in Aerospace – ACA2010*. Vol. CD–Rom. IFAC International Federation of Automatic Control, Aerospace Technical Committee. IFAC. Nara, Japan. pp. 1–6. DOI: 10.3182/20100906–5–JP–2022.00072.
- Bertozzi, N., P. Castaldi, M. Bonfè, S. Simani and G. Bertoni (2009). Integrated design of an aircraft guidance system using feedback linearization. In: *Proceedings of the IFAC Workshop Aerospace Guidance, Navigation and Flight Control Systems – AGNFCS’09* (Yevgeny Somov, Ed.). Vol. CD–Rom. Russian Academy of Sciences (RAS), Samara Scientific Center (SSC), Department of Dynamics and Motion Control. Elsevier. Samara, RUSSIA. pp. 1–12. Invited plenary paper.
- Bettocchi, R., S. Simani, P. R. Spina and A. Bedeschi (1998). Modelli statistici di turbogas: influenza delle serie temporali di dati sull’accuratezza dei modelli. In: *LIII Congresso Nazionale ATI, Associazione Termotecnica Italiana..* Vol. 2. Associazione Termotecnica Italiana. Polo Universitario di Santa Verdiana, Firenze, Italy. pp. 1151–1162. In Italian.

- Bonfè, M. and S. Simani (2006). Formal Verification of Hybrid Models for Physical Systems. In: *2006 ANIPLA – International Congress METHODOLOGIES FOR EMERGING TECHNOLOGIES IN AUTOMATION* (ANIPLA, Ed.). Vol. CD Rom. ANIPLA. ANIPLA. Università di Roma “La Sapienza”, Rome, Italy. pp. 1–8. Paper Number T121.
- Bonfè, M., C. Fantuzzi and S. Simani (2006a). A Study of Fault Diagnosis and Recovery Techniques for Manufacturing Systems. In: *Proceedings of the 6th IFAC Symposium on Fault Detection Supervision and Safety for Technical Processes – SAFEPROCESS 2006* (Z Zhang, Ed.). Vol. 2. Department of Automation, Tsinghua University, Beijing, China. Elsevier. Beijing, PR China. pp. 1372–1377. ISBN: 978–008044485–7. DOI: 10.3182/20060829–4–CN–2909.00229. DOI: 10.1016/B978–008044485–7/50231–1.
- Bonfè, M., C. Fantuzzi, C. Secchi and S. Simani (2007a). Modelli Orientati agli Oggetti per Sistemi con Dinamiche Ibride (Object–Oriented Modelling for Hybrid Dynamic Systems). *Automazione e Strumentazione* **LV**(4), 122–130. In Italian.
- Bonfè, M., P. Castaldi, N. Mimmo and S. Simani (2009a). Active fault tolerant control of nonlinear systems: The cart–pole example. In: *Proceedings of the 7th Workshop on Advanced Control and Diagnosis, ACD2009 – 24th Annual Meeting of the European Institute for Applied Research, IAR2009* (Marcin Witczak, Ed.). Vol. CD–Rom. Institute of Control and Computation Engineering. Faculty of Electrical Engineering, Computer Science and Telecommunications. University of Zielona Gora. Zielona Gora, Poland. pp. 1–6.
- Bonfè, M., P. Castaldi, N. Mimmo and S. Simani (2011). Active Fault Tolerant Control of Nonlinear Systems: The Cart–Pole Example. *International Journal of Applied Mathematics and Computer Science – AMCS* **21**(3), 441–455. Special Issue: “Issues in Fault–Tolerant Control and Fault Diagnosis”. Organisers: Puig, V. and Witczak, M. ISSN: 1641–876X. DOI: 10.2478/v10006–011–0033–y.
- Bonfè, M., P. Castaldi, N. Preda and S. Simani (2013a). Friction compensation in nonlinear dynamical systems using fault–tolerant control methods. *Diagnostyka* **14**(4), 13–19. ISSN: 1641–6414. Special issue invited paper. Available at: <http://www.diagnostyka.net.pl/index1.php?page=83>.
- Bonfè, M., P. Castaldi, N. Preda and S. Simani (2013b). Nonlinear geometric approach to friction estimation and compensation. In: *Proceedings of the 3rd International Conference on Condition Monitoring of Machinery in Non–Stationary Operations – CMMNO13*. University of Ferrara. Ferrara, Italy. pp. 1–10.
- Bonfè, M., P. Castaldi, S. Simani and M. Benini (2009b). Nonlinear Geometric Approach–Based Filtering Methods for Aircraft Actuator FDI. In: *7th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes – SAFEPROCESS 2009* (T. Escobet, V. Puig and B. Morcego, Eds.). Vol. CD Rom. International Federation of Automatic Control IFAC – Advanced Control Systems SAC – Universitat Politècnica de Catalunya UPC. IFAC. Barcelona,

- Spain. pp. 639–644. ISBN: 978-3-902661-46-3. DOI: 10.3182/20090630-4-ES-2003.00106.
- Bonfè, M., P. Castaldi, S. Simani and S. Beghelli (2009c). Fault Diagnosis and Fault Tolerant Control Integrated Designs Applied to a Civil Unmanned Aerial Vehicle (CUAV). In: *20th International Conference on Systems Engineering – ICSE2009* (Faculty of Engineering CTAC and Coventry University Computing, Eds.). Vol. CD Rom. Control Theory and Applications Centre, Coventry University. CTAC, Coventry University. Coventry, UK. pp. 13–18. in cooperation with Technical University of Wroclaw, Wroclaw, Poland, and the University of Nevada, Las Vegas, USA. Invited plenary paper.
- Bonfè, M., P. Castaldi, W. Geri and S. Simani (2007b). Design and Performance Evaluation of Residual Generators for the FDI of an Aircraft. *International Journal of Automation and Computing* 4(2), 156–163. Special Issue on FDD and FTC. ISSN: 1476–8186. DOI: 10.1007/s11633-007-0156-7.
- Bonfè, M., P. Castaldi, W. Geri and S. Simani (2007c). Nonlinear Actuator Fault Detection and Isolation for a General Aviation Aircraft. *Space Technology – Space Engineering, Telecommunication, Systems Engineering and Control* 27(2–3), 107–113. Special Issue on Automatic Control in Aerospace.
- Bonfè, M., P. Castaldi, W. Geri, S. Simani and M. Benini (2008). Fault Diagnosis Techniques for Aircraft Simulated Model Sensors. In: *23rd IAR Workshop on Advanced Control and Diagnosis – IAR/ACD2008* (K. J. Burnham and J. G. Linden, Eds.). Vol. CD–Rom. IAR – Institute for Automation and Robotics, CTAC Coventry University. Coventry University, Coventry, UK. pp. 96–101. Organized by IAR CTAC Working Group.
- Bonfè, M., S. Simani and P. Castaldi (2009d). Active Fault Tolerant Control Scheme for a General Aviation Aircraft Model. In: *17th Mediterranean Conference on Control and Automation – MED’09*. Vol. CD Rom. Mediterranean Control Association MCA, IEEE Control Systems Society CSS, IEEE Robotics & Automation Society RAS. IEEE 2009. Makedonia Palace, Thessaloniki, Greece. pp. 534–539. Invited paper. ISBN: 978-1-4244-4685-8. DOI: 10.1109/MED.2009.5164597.
- Bonfè, M., S. Simani, P. Castaldi and W. Geri (2004). Residual generator computation for fault detection of a general aviation aircraft. In: *ACA 2004. 16th IFAC Symposium on Automatic Control in Aerospace*. Vol. 2. IFAC. IFAC. St. Petersburg, Russia. pp. 318–323.
- Bonfè, Marcello, Paolo Castaldi, Nicola Preda and Silvio Simani (2013c). Non-linear Geometric Approach to Friction Estimation and Compensation. In: *Advances in Condition Monitoring of Machinery in Non-Stationary Operations* (G. Dalpiaz, R. Rubini, G. D’Elia, M. Cocconcelli, F. Chaari, R. Zimroz, W. Bartelmus and M. Haddar, Eds.). 2014 ed.. Vol. 8 of *Lecture Notes in Mechanical Engineering*. Chap. 30, pp. 355–365. Springer. Berlin Heidelberg. ISBN: 978-3-642-39347-1. ISSN: 2195-4356. DOI: 10.1007/978-3-642-39348-8_30.

- Bonfè, Marcello, Paolo Castaldi, Walter Geri and Silvio Simani (2006*b*). Fault Detection and Isolation for On-Board Sensors of a General Aviation Aircraft. *International Journal of Adaptive Control and Signal Processing* **20**(8), 381–408. Copyright 2006 John Wiley & Sons, Ltd. ISSN: 0890-6327. DOI: 10.1002/acs.906.
- Calori, L., M. Forte, A. Guidazzoli, F. Fraticelli and S. Simani (1996). Shape from Motion Project: 3D Modelling by Analogic Video Input Data for the Reconstruction of Archaeological Sites. In: *Science and Supercomputing at CINECA* (G. Erbacci and M. Voli, Eds.). pp. 13–15. Researches carried out with CINECA Supercomputers. Tecnoprint s.n.c.. Casalecchio di Reno, (BO) Italy. 1995 Report. ISBN: 88-86037-02-3.
- Carassiti, V., S. Chiozzi, F. Evangelisti, P. Ferretti, S. Bigoni, G. Bonora, M. Melchiorri, M. Rubbi, N. Tezzon, C. Fantuzzi and S. Simani (1998). An automatic winding machine making superconducting coils for the LHC correction magnets. Technical Report INFN/TC-98-31. INFN, Physics Department, University of Ferrara. Ferrara, Italy.
- Castaldi, P., H. A. Nozari, J. Sadati-Rostami, H. D. Banadaki and S. Simani (2022*a*). Intelligent hybrid robust fault detection and isolation of reaction wheels in satellite attitude control system. In: *Proceedings of the 2022 IEEE 9th International Workshop on Metrology for AeroSpace (MetroAeroSpace)* (M. Marracci, Ed.). University of Pisa, Italy. IEEE. Pisa, Italy. pp. 441–446. ISBN: 978-1-6654-1076-2. ISSN: 2575-7490. DOI: 10.1109/MetroAeroSpace54187.2022.9855938.
- Castaldi, P., N. Mimmo and S. Simani (2010*a*). Fault Tolerant Control Schemes for Nonlinear Models of Aircraft and Spacecraft: Preliminary Results. In: *Proceedings of the 8th European Workshop on Advanced Control and Diagnosis – ACD2010* (S. Simani, Ed.). number ThA1.3. Faculty of Engineering, University of Ferrara, Ferrara, Italy. Grafema. 44049 Vigarano Mainarda. Ferrara, Italy. Faculty of Engineering. Via Saragat, 1. 44122 Ferrara (FE), Italy. pp. 217–222. Available on-line at: www.acd2010.it.
- Castaldi, P., N. Mimmo and S. Simani (2011). Fault Tolerant Control Schemes for Nonlinear Models of Aircraft and Spacecraft Systems. In: *Proceedings of the 18th IFAC World Congress* (S. Bittanti, A. Cenedese and S. Zampieri, Eds.). Vol. 18. International Federation of Automatic Control (IFAC). Università Cattolica del Sacro Cuore, Milan, Italy. pp. 13705–13710. Special Session Invited Paper. DOI:10.3182/20110828-6-IT-1002.00455.
- Castaldi, P., N. Mimmo and S. Simani (2014*a*). Differential Geometry Based Active Fault Tolerant Control for Aircraft. *Control Engineering Practice* **32**, 227–235. Invited Paper. DOI:10.1016/j.conengprac.2013.12.011.
- Castaldi, P., N. Mimmo and S. Simani (2015). Issues of Fault Diagnosis and Fault Tolerant Control for Aerospace System. In: *Proceedings of the 12th International Conference on Diagnostics of Processes and Systems* (Zdzislaw Kowalczyk, Jan M. Koscielny and Jozef Korbicz, Eds.). Department of Robotics and Decision

- Systems. Faculty of Electronics, Telecommunications and Informatics. Gdansk University of Technology. Ustka, Poland. pp. 1–14. Invited plenary paper.
- Castaldi, P., N. Mimmo and S. Simani (2016). Issues of Fault Diagnosis and Fault Tolerant Control for Aerospace System. In: *Advanced and Intelligent Computations in Diagnosis and Control* (Zdzislaw Kowalczyk, Ed.). Vol. 386 of *Advances in Intelligent Systems and Computing*. Chap. 3, pp. 426–439. Springer International Publishing. Ustka, Poland. ISBN: 9783319231792. ISSN: 2194–5357. DOI: 10.1007/978-3-319-23180-8.
- Castaldi, P., N. Mimmo and S. Simani (2017). Avionic Air Data Sensors Fault Detection and Isolation by means of Singular Perturbation and Geometric Approach. *Sensors* **17**(10), 1–19. Invited paper for the special issue "Models, Systems and Applications for Sensors in Cyber Physical Systems". DOI: 10.3390/s17102202.
- Castaldi, P., N. Mimmo and S. Simani (2019). LEO satellite active FTC with aerodynamic disturbance decoupled fault diagnosis. *European Journal of Control* **51**(1), 76–94. DOI: 10.1016/j.ejcon.2019.06.005.
- Castaldi, P., N. Mimmo and S. Simani (2020). LEO satellite active FTC with aerodynamic disturbance decoupled fault diagnosis. *European Journal of Control* **54**(1), 76–94. ISSN: 0947–3580. DOI: 10.1016/j.ejcon.2019.06.005.
- Castaldi, P., S. Farsoni, M. Menghini and S. Simani (2021). Data-driven fault detection and isolation of the actuators of an autonomous underwater vehicle. In: *2021 5th International Conference on Control and Fault-Tolerant Systems (SysTol)* (IEEE Control Systems Society, Ed.). CRAN – Research Center for Automatic Control. IEEE. Saint Raphael, France. pp. 139–144. ISBN: 978-1-6654-3159-0. ISSN: 2162–1209. DOI: 10.1109/SysTol52990.2021.9595605.
- Castaldi, P., S. Farsoni, M. Menghini and S. Simani (2022b). Artificial intelligence tools for actuator fault diagnosis of an unmanned underwater vehicle. In: *Proceedings of the Intelligent Computing Conference – CC 2022* (K. Arai, Ed.). Vol. 507 of *Lecture Notes in Networks and Systems*. SAI. Springer, Cham. London, UK. pp. 392–403. ISBN: 978-3-031-10463-3. DOI: 10.1007/978-3-031-10464-0_26.
- Castaldi, P., W. Geri, M. Bonfè and S. Simani (2007). Nonlinear Actuator Fault Detection and Isolation for a General Aviation Aircraft. In: *ACA2007 – 17th IFAC Symposium on Automatic Control in Aerospace* (Houria Siguerdidjane, Ed.). Vol. 17. IFAC ACA. IFAC. Toulouse, France. pp. 1–6. ISBN: 978–1605607344. DOI: 10.3182/20070625–5–FR–2916.00121.
- Castaldi, P., W. Geri, M. Bonfè, S. Simani and M. Benini (2010b). Design of residual generators and adaptive filters for the FDI of aircraft model sensors. *Control Engineering Practice* **18**(5), 449–459. ACA'07 – 17th IFAC Symposium on Automatic Control in Aerospace Special Issue. Publisher: Elsevier Science. ISSN: 0967–0661. DOI: 10.1016/j.conengprac.2008.11.006.

- Castaldi, Paolo, Nicola Mimmo and Silvio Simani (2014*b*). NonLinear Fault Tolerant Flight Control for Generic Actuators Fault Models. In: *American Control Conference – ACC 2014*. IEEE Control Systems Society & American Automatic Control Council. IEEE. Portland, OR, USA. pp. 1261–1266. Special session invited paper "Fault Detection, Isolation, and Reconfiguration in Aerospace Systems". ISSN: 0743–1619. ISBN: 978–1–4799–3272–6. DOI: 10.1109/ACC.2014.6858813.
- Cheng, Wanglei, Ke Zhang, Bin Jiang and Silvio Simani (2023). Neural network observer-based prescribed-time fault-tolerant tracking control for heterogeneous multiagent systems with a leader of unknown disturbances. *IEEE Transactions on Aerospace and Electronic Systems* **59**(6), 9042–9053.
- Diversi, R., S. Simani and U. Soverini (2002). Robust residual generation for dynamic processes using de-coupling technique. In: *CCA'02. Proc. of the Conference on Control Applications* (IEEE CSS, Ed.). Vol. 2. IEEE Control Systems Society. IEEE. Glasgow, Scotland. pp. 1270–1275. DOI: 10.1109/CCA.2002.1038788.
- Diversi, Roberto and Silvio Simani (2003*a*). Residual design for dynamic processes using de-coupling technique. In: *CDC'03* (IEEE CSS, Ed.). Vol. 1. 42nd IEEE Conference on Decision and Control. IEEE CSS. Maui, Hawaii, USA. pp. 451–456. DOI: 10.1109/CDC.2003.1272604.
- Diversi, Roberto and Silvio Simani (2003*b*). Residual generation and disturbance de-coupling for a chemical process. In: *European Control Conference – ECC 2003* (ECC IEE EUCA, Ed.). Vol. CD Rom. The IEE. 2003 EUCA. Cambridge, UK. pp. 1–6.
- Edwards, C. and S. Simani (2109). Fault diagnosis and fault-tolerant control in aerospace systems. *International Journal of Robust and Nonlinear Control* **2019**, 1–2. DOI: 10.1002/rnc.4723.
- Fantuzzi, C. and S. Simani (2002). Parametric identification in robust fault detection. In: *IFAC'02* (L. Basanez and J. A. de la Puente, Eds.). Vol. 15. 15th IFAC World Congress on Automatic Control. Barcelona, Spain. (Invited paper). DOI: 10.3182/20020721–6–ES–1901.00410.
- Fantuzzi, C, R. Rovatti, S. Simani and S. Beghelli (1998). Fuzzy modeling with noisy data. In: *EUFIT'98*. Vol. 3. The 6th European Congress on Intelligent Techniques and Soft Computing. Aachen, Germany. pp. 1615–1619. DOI:.
- Fantuzzi, C., S. Simani and S. Beghelli (2001*a*). Parameter identification for eigenstructure assignment in robust fault detection. In: *ECC'01*. European Control Conference 2001. Porto, Portugal. pp. 149–154.
- Fantuzzi, C., S. Simani and S. Beghelli (2001*b*). Robust fault diagnosis of dynamic processes using parametric identification with eigenstructure assignment approach. In: *CDC'01* (IEEE CSS, Ed.). Vol. 1. 2001, 40th IEEE Conference on Decision and Control. Orlando, Florida, U.S.A. pp. 155–160. DOI: 10.1109/CDC.2001.980090.

- Fantuzzi, C., S. Simani, S. Beghelli and R. Rovatti (2002). Identification of piecewise affine models in noisy environment. *International Journal of Control* **75**(18), 1472–1485. Publisher: Taylor and Francis, Ltd. DOI: 10.1109/87.865858.
- Farsoni, S. and S. Simani (2016). *Robust Fault Diagnosis and Fault Tolerant Control of Wind Turbines*. Informatics, IT. 1st ed.. Scholars’ Press. OmniScriptum GmbH & Co. KG. Saarbrücken, Germany. <http://www.scholars-press.com>. ISBN: 978-3-659-83801-9.
- Farsoni, S. and S. Simani (2021). Validation of fault diagnosis techniques based on artificial intelligence tools for a wind turbine benchmark. In: *2021 5th International Conference on Control and Fault-Tolerant Systems (SysTol)* (IEEE Control Systems Society, Ed.). CRAN – Research Center for Automatic Control. IEEE. Saint Raphael, France. pp. 157–162. ISBN: 978-1-6654-3159-0. ISSN: 2162–1209. DOI: 10.1109/SysTol52990.2021.9595291.
- Farsoni, S., S. Simani and P. Castaldi (2021a). Fuzzy and Neural Network Approaches to Wind Turbine Fault Diagnosis. *Applied Sciences* **11**(11), 1–21. ISSN: 2076-3417. DOI: 10.3390/app11115035.
- Farsoni, S., S. Simani, S. Alvisi and M. Venturini (2021b). Simulation and experimental validation of fuzzy control techniques for wind turbine system and hydroelectric plant. In: *2021 5th International Conference on Control and Fault-Tolerant Systems (SysTol)* (IEEE Control Systems Society, Ed.). CRAN – Research Center for Automatic Control. IEEE. Saint Raphael, France. pp. 249–254. ISBN: 978-1-6654-3159-0. ISSN: 2162–1209. DOI: 10.1109/SysTol52990.2021.9595640.
- Fekih, A., H. Habibi and S. Simani (2022). Fault diagnosis and fault tolerant control of wind turbines: An overview. *Energies* **15**(19), 7186–7206. ISSN: 1996–1073. DOI: 10.3390/en15197186.
- Finotti, S., S. Simani, S. Alvisi and M. Venturini (2016). Benchmarking of Advanced Control Strategies for a Simulated Hydroelectric System. In: *Proc. of the 13th European Workshop on Advanced Control and Diagnosis – ACD2016* (A. Aitouche, J. Korbicz and V. Cocquempot, Eds.). Vol. 783 of *Journal of Physics: Conf. Series*. Research Center in Computer Science, Signal and Automatic Control. IOP Publishing. IOP Conf. Series. Lille, France. pp. 1–12. Invited paper special issue. DOI: 10.1088/1742-6596/783/1/012041.
- Habibi, H., H. R. Nohooji, I. Howard and S. Simani (2018). Fault-tolerant neuro adaptive constrained control of wind turbines for power regulation with unknown control direction. *Energies* **2018**, 1–27.
- Habibi, H., I. Howard and S. Simani (2019a). Reliability improvement of wind turbine power generation using model-based fault detection and fault tolerant control: A review. *Renewable Energy* **135**(1), 877–896. DOI: 10.1016/j.renene.2018.12.066.

- Habibi, H., I. Howard and S. Simani (2022). Wind Turbine Pitch Actuator Regulation for Efficient and Reliable Energy Conversion: A Fault-Tolerant Constrained Control Solution. *Actuators* **11**(4), 1–23. ISSN: 2076-0825. DOI: 10.3390/act11040102.
- Habibi, H., I. Howard, S. Simani and A. Fekih (2021). Decoupling adaptive sliding mode observer design for wind turbines subject to simultaneous faults in sensors and actuators. *IEEE/CAA Journal of Automatica Sinica* **8**(4), 837–847. ISSN: 2329–9274. DOI: 10.1109/JAS.2021.1003931.
- Habibi, Hamed, Hamed Rahimi Nohooji, Ian Howard and Silvio Simani (2019b). Fault-Tolerant Neuro Adaptive Constrained Control of Wind Turbines for Power Regulation with Uncertain Wind Speed Variation. *Energies* **12**(24), 1–31. ISSN: 1996–1073. DOI: 10.3390/en12244712.
- Henry, D., S. Simani and R. J. Patton (2010a). Fault Tolerant Flight Control: A Benchmark Challenge. In: *Fault Detection and Diagnosis for Aeronautic and Aerospace Missions* (C. Edwards, T. Lombaerts and H. Smaili, Eds.). 1st ed.. Vol. 399/2010 of *Lecture Notes in Control and Information Sciences*. Chap. 3, pp. 91–121. Springer-Verlag. Berlin Heidelberg, Germany. (Invited Contribution). ISBN: 978–3642116896. ISSN: 0170–8643. DOI: 10.1007/978–3–642–11690–2_3.
- Henry, David, Silvio Simani and R. J. Patton (2010b). Fault detection and diagnosis for aeronautic and aerospace missions. In: *Fault Tolerant Control – A Benchmark Challenge* (C. Edwards, T. J. J. Lombaerts and M. H. Smaili, Eds.). Vol. 399 of *Lecture Notes in Control and Information Sciences*. pp. 91–128. Springer-Verlag. London, UK. ISSN: 01708643. ISBN: 978–364211689–6. DOI: 10.1007/978–3–642–11690–2_3.
- Huang, Shoujin, Ningyun Lu, Bin Jiang, Silvio Simani, Ronghua Li, Binda Huang and Jie Cao (2023). Fault propagation analysis of computer numerically controlled machine tools. *Journal of Manufacturing Systems* **70**, 149–159.
- Lam, Yat Ping and Silvio Simani (2024a). Artificial intelligence tools for wind turbine blade monitoring. In: *Intelligent Systems and Applications* (Kohei Arai, Ed.). Springer Nature Switzerland. Cham. pp. 219–227.
- Lam, Yat Ping and Silvio Simani (2024b). Data-driven adaptive fault-tolerant control for floating offshore wind turbines. *IFAC-PapersOnLine* **58**(4), 306–311. 12th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes SAFEPROCESS 2024.
- Lam, Yat Ping and Silvio Simani (2024c). Model-free adaptive fault-tolerant control for offshore wind turbines. In: *Intelligent Computing* (Kohei Arai, Ed.). Springer Nature Switzerland. Cham. pp. 1–13.
- Lam, Yat Ping and Silvio Simani (2024d). Wind turbine blade monitoring via deep learning and acoustic aerodynamic signals. *IFAC-PapersOnLine* **58**(4), 604–609.

- Lema, M., W. Pavon, L. Ortiz, A. B. Asiedu-Asante and S. Simani (2022). Controller coordination strategy for DC microgrid using distributed predictive control improving voltage stability. *Energies* **15**(15), 5442–5456. ISSN: 1996-1073. DOI: 10.3390/en15155442.
- Liu, Qingyi, Ke Zhang, Bin Jiang and Silvio Simani (2024). Optimal fault-tolerant control for large-scale interconnected systems with state constraints. *IEEE Transactions on Systems, Man, and Cybernetics: Systems* pp. 1–12.
- Ma, Yonghao, Ke Zhang, Bin Jiang, Silvio Simani and Wanglei Cheng (2023). Neural-network-based adaptive fault-tolerant control for nonlinear systems: A fully actuated system approach. In: *2023 6th International Symposium on Autonomous Systems (ISAS)*. Nanjing, China. pp. 1–6.
- Mallipeddi, S. K., P. Castaldi, H. A. Nozari and S. Simani (2022). Design of passive fault-tolerant attitude controller for a fractional order flexible satellite model. In: *Proceedings of the 2022 IEEE 9th International Workshop on Metrology for AeroSpace (MetroAeroSpace)* (M. Marracci, Ed.). University of Pisa, Italy. IEEE. Pisa, Italy. pp. 459–464. ISBN: 978-1-6654-1076-2. ISSN: 2575-7490. DOI: 10.1109/MetroAeroSpace54187.2022.9855986.
- Manservigi, L., S. Alvisi, M. Venturini and S. Simani (2018). Producibile energy at the inlet point of a district by replacing a pressure reducing valve with a pump running in turbine mode. In: *Proc. of the XXXVI National Hydraulics and Hydraulic Construction Conference – IDRA2018*. number 51. Università Politecnica delle Marche. Ancona, Italy. pp. 1–4.
- Menghini, M., L. De Marchi, P. Castaldi and S. Simani (2020). Autonomous underwater vehicle actuators health monitoring for smart harbour application. In: *5th International Conference on Smart and Sustainable Technologies 2020 – SpliTech 2020*. FESB, University of Split. IEEE. Split & Bol, Croatia. pp. 1–6. DOI: 10.23919/SpliTech49282.2020.9243818.
- Miao, Yizhi, Mohsen N. Soltani, Amin Hajizadeh and Silvio Simani (2024a). Artificial neural network-based wake steering control under the time-varying inflow. In: *2024 IEEE 10th International Conference on Control, Decision and Information Technologies (CoDIT)*. pp. 1988–1993.
- Miao, Yizhi, Mohsen Soltani, Amin Hajizadeh and Silvio Simani (2024b). AI-based optimal wake steering for load reduction in wind farms. *IEEE Transactions on Automation Science and Engineering*.
- Montufar, M., W. Pavon, M. Jaramillo and S. Simani (2022a). Control strategy applied to smart photovoltaic inverters for reactive power exchange through volt-var control to improve voltage quality in electrical distribution networks. In: *Proceedings of the Communication, Smart Technologies and Innovation for Society*

- *CITIS 2021* (A. Rocha, P. C. Lopez-Lopez and J.P. Salgado-Guerrero, Eds.). Vol. 252 of *Smart Innovation, Systems and Technologies*. Springer, Singapore. Guayaquil, Ecuador. pp. 357–366. ISBN: 978-981-16-4126-8. DOI: 10.1007/978-981-16-4126-8_33.
- Montufar, M., W. Pavon, M. Jaramillo and S. Simani (2022b). Control strategy applied to smart photovoltaic inverters for reactive power exchange through volt–var control to improve voltage quality in electrical distribution networks. In: *Communication, Smart Technologies and Innovation for Society* (A. Rocha, P. C. Lopez-Lopez and J. P. Salgado-Guerrero, Eds.). Vol. 252 of *Smart Innovation, Systems and Technologies*. Chap. 33, pp. 357–366. Springer. Singapore. ISSN: 2190-3018. ISBN: 978-981164125-1. DOI: 10.1007/978-981-16-4126-8_33.
- Montufar, Marcelo, Wilson Pavón, Manuel Jaramillo and Silvio Simani (2021). Solar cell mathematical modelling comparing single and double diode under three parameter approach. In: *2021 IEEE PES Innovative Smart Grid Technologies Conference – Latin America (ISGT Latin America)*. IEEE PES. IEEE. Lima, Peru. pp. 1–5. ISSN: 2643-8798. ISBN: 978-1-6654-4421-7. DOI: 10.1109/ISGT-LatinAmerica52371.2021.9543074.
- Munoz, E., E. Ayala, N. Pozo and S. Simani (2021). Fuzzy PID control system analysis for a wind turbine maximum power point tracking using FAST and matlab simulink. In: *Proceedings of the 6th Brazilian Technology Symposium (BT-Sym'20)*. *BT-Sym 2020* (Y. Iano, O. Saotome, G. Kemper, A. C. Mendes de Seixas and G. Gomes de Oliveira, Eds.). Vol. 233 of *Smart Innovation, Systems and Technologies*. Chap. 100, pp. 905–917. Springer. Cham, Germany. ISBN: 978-3-030-75680-2. DOI: 10.1007/978-3-030-75680-2-100.
- Nozari, H. A., H. D. Banadaki, M. A. Shoorehdeli and S. Simani (2011). Model-based Fault Detection and Isolation using Neural Networks: An Industrial Gas Turbine Case Study. In: *Proceedings of the 21st International Conference on Systems Engineering – ICSEng2011*. University of Nevada (Las Vegas, USA), Wrocław University of Technology (Wrocław, Poland), Coventry University (Coventry, UK). IEEE Computer Society’s Conference Publishing Services (CPS). Las Vegas, Nevada, USA. pp. 26–31. DOI: 10.1109/ICSEng.2011.13. ISBN: 978-1-4577-1078-0, 978-0-7695-4495-3/11.
- Nozari, H. A., M. A. Shooredeli and S. Simani (2010). Robust Fault Detection of Nonlinear Systems Using Local Linear Neuro-Fuzzy Techniques with Application to a Gas Turbine Engine. In: *Proceedings of the 8th European Workshop on Advanced Control and Diagnosis – ACD2010* (S. Simani, Ed.). number FrB1.3. Faculty of Engineering, University of Ferrara, Ferrara, Italy. Grafema. 44049 Vigarano Mainarda. Ferrara, Italy. Faculty of Engineering. Via Saragat, 1. 44122 Ferrara (FE), Italy. pp. 356–361. Available on-line at: www.acd2010.it.
- Nozari, H. A., M. A. Shoorehdeli, S. Simani and H. D. Banadaki (2012). Model-based Robust Fault Detection and Isolation of an Industrial Gas Turbine Prototype

- Using Soft Computing Techniques. *Neurocomputing* **91**(1), 29–47. ISSN: 0925–2312. DOI: 10.1016/j.neucom.2012.02.014. PII: S0925231212001580.
- Nozari, H. A., P. Castaldi, H. D. Banadaki and S. Simani (2019). Novel non-model-based fault detection and isolation of satellite reaction wheels based on a mixed-learning fusion framework. In: *Proceedings of the 21st IFAC Symposium on Automatic Control in Aerospace - ACA 2019* (IFAC, Ed.). Vol. 52 of *IFAC Papers Online*. IFAC. IFAC. Cranfield, UK. pp. 194–199. DOI: 10.1016/j.ifacol.2019.11.222.
- Nozari, H. A., Z. Rahmani, P. Castaldi, S. Simani and S. J. Sadati (2020a). Data-Driven Modelling of the Nonlinear Cortical Responses Generated by Continuous Mechanical Perturbations. In: *Proceedings of the IFAC World Congress*. IFAC. IFAC. Berlin, Germany. pp. 1–7.
- Nozari, H. A., Z. Rahmani, P. Castaldi, S. Simani and S. J. Sadati (2020b). Data-driven modelling of the nonlinear cortical responses generated by continuous mechanical perturbations. In: *Proceedings of the 21th IFAC World Congress* (Rolf Findeisen, Sandra Hirche, Klaus Janschek and Martin Monnigmann, Eds.). Vol. 53. IFAC. Elsevier. Berlin, Germany. ISBN: 2405–8963. DOI: 10.1016/j.ifacol.2020.12.180.
- Patton, R. J., C. J. Lopez-Toribio and S. Simani (2001a). Robust fault diagnosis in a chemical process using multiple model identification. In: *CDC'01* (IEEE CSS, Ed.). Vol. 1. 2001, 40th IEEE Conference on Decision and Control. Orlando, Florida, U.S.A.. pp. 149–154. DOI: 10.1109/CDC.2001.980089.
- Patton, R. J., C. J. Lopez-Toribio, S. Simani, Julian Morris, E. Martin and Jie Zhang (2001b). Actuator fault diagnosis in a continuous stirred tank reactor using identification techniques. In: *ECC'01*. European Control Conference 2001. Porto, Portugal. pp. 2729–2734.
- Patton, R. J., F. J. Uppal, S. Simani and B. Polle (2008). Reliable fault diagnosis scheme for a spacecraft attitude control system. *Journal of Risk and Reliability* **222**(2), 139–152. 6th IFAC SAFEPROCESS Special Issue. Publisher: Professional Engineering Publishing. Proceedings of the Institution of Mechanical Engineers, Part O. ISSN: 1748-006X (Print) 1748-0078 (Online). DOI: 10.1243/1748006XJRR98.
- Patton, R. J., F. J. Uppal, S. Simani and B. Polle (2010). Robust FDI applied to thruster faults of a satellite system. *Control Engineering Practice* **18**(9), 1093–1109. ACA'07 – 17th IFAC Symposium on Automatic Control in Aerospace Special Issue. Publisher: Elsevier Science. ISSN: 0967–0661. DOI: 10.1016/j.conengprac.2009.04.011.
- Patton, R. J., F. Uppal, S. Simani and Bernard Polle (2007). Robust FDI Applied to Thruster Faults of a Satellite System. In: *ACA2007 – 17th IFAC Symposium on Automatic Control in Aerospace* (Houria Siguerdidjane, Ed.). Vol. 17. IFAC ACA. IFAC. Toulouse, France. pp. 1–6. ISBN: 978–1605607344. DOI: 10.3182/20070625-5-FR-2916.00002.

- Patton, R. J., S. Simani, S. Daley and A. Pike (2000). Fault diagnosis of a simulated model of an industrial gas turbine prototype using identification techniques. In: *SAFEPROCESS2000*. Vol. 1. 4th Symposium on Fault Detection Supervision and Safety for Technical Processes. Budapest, Hungary. pp. 518–524.
- Patton, R. J., S. Simani, S. Daley and A. Pike (2001c). Identification and model-based fault diagnosis of a gas turbine system. In: *4th International Conference on Acoustical and Vibratory Surveillance Methods and Diagnostic Techniques* (IMEKO S.F.M., IMECHE, Ed.). S.F.M., IMECHE, IMEKO. IFAC – SAFE-PROCESS Committee. Compiègne, France.
- Patton, R. J., Silvio Simani, Steve Daley and Andrew Pike (2001d). Fault Diagnosis of a Simulated Model of an Industrial Gas Turbine Prototype Using Identification Techniques. In: *5th National Conference on Sciences and Technology Diagnostics of Industrial Processes, DPP'01* (Poland University of Zielona Góra, Ed.). Lagow Lubuski, Poland. (URL: <http://www.issi.pz.zgora.pl/dpp01/>).
- Patton, R.J., F.J. Uppal, S. Simani and B. Polle (2006a). Monte-Carlo Reliability and Performance Analysis of Satellite FDI System. In: *MECHATRONICS 2006 – 4th IFAC Symposium on Mechatronic Systems* (IFAC, Ed.). Vol. 4. VDI VDE. IFAC. Heidelberg, Germany. pp. 187–192. DOI: 10.3182/20060912-3-DE-2911.00035.
- Patton, R.J., F.J. Uppal, S. Simani and B. Polle (2006b). A Monte Carlo Analysis and Design for FDI of a Satellite Attitude Control System. In: *Proceedings of the 6th IFAC Symposium on Fault Detection Supervision and Safety for Technical Processes – SAFEPROCESS 2006* (Z Zhang, Ed.). Vol. 2. Department of Automation, Tsinghua University, Beijing, China. Elsevier. Beijing, PR China. pp. 1318–1323. ISBN: 978-008044485-7. DOI: 10.3182/20060829-4-CN-2909.00220. DOI: 10.1016/B978-008044485-7/50222-0.
- Pavon, W., E. Inga and S. Simani (2019). Optimal routing an ungrounded electrical distribution system based on heuristic method with micro grids integration. *Sustainability* **11**(6), 1–18. DOI: 10.3390/su11061607.
- Pavon, W., E. Inga and S. Simani (2020). Optimal Distribution Network Planning Applying Heuristic Algorithms Considering Allocation of PV Rooftop Generation. In: *Proc. of the 2020 IEEE ANDESCON*. IEEE. IEEE. Quito, Ecuador. ISBN: 978-1-7281-9365-6.20. DOI: 10.1109/ANDESCON50619.2020.9272062.
- Pavon, W., E. Inga, S. Simani and M. Armstrong (2022). Novel single stage DC/AC power inverter for a standalone photovoltaic system controlled by a double loop scheme. In: *Proceedings of the 2022 IEEE 10th International Conference on Smart Energy Grid Engineering (SEGE)* (H. A. Gabbar, Ed.). OntarioTech University, Canada. IEEE. Oshawa, Canada. pp. 111–118. ISBN: 978-1-6654-9930-9. ISSN: 2575-2693. DOI: 10.1109/SEGE55279.2022.9889762.
- Pavon, W., E. Inga, S. Simani and M. Nonato (2021). A review on optimal control for the smart grid electrical substation enhancing transition stability. *Energies* **14**(24), 1–15. ISSN: 1996-1073 . DOI: 10.3390/en14248451.

- Pavon, Wilson, Esteban Inga, Silvio Simani and Matthew Armstrong (2023a). Optimal hierarchical control for smart grid inverters using stability margin evaluating transient voltage for photovoltaic system. *Energies*.
- Pavon, Wilson, Esteban Inga, Silvio Simani and William Chamorro (2023b). Optimal secondary and tertiary hierarchical control for photovoltaic system generation using a heuristic approach. In: *2023 6th International Conference on Electrical Engineering and Green Energy (CEEGE)*. Grimstad, Norway. pp. 198–203.
- Pazmino, Raul, Wilson Pavon, Matthew Armstrong and Silvio Simani (2024). Performance evaluation of fractional proportional–integral–derivative controllers tuned by heuristic algorithms for nonlinear interconnected tanks. *Algorithms*.
- Pistocchi, A., F. Ciancabilla, G. Gottardi and S. Simani (2000). Ex–post hydrogeological evaluation of a landfill using hydrochemical analyses and system identification techniques. In: *SISIDA 2000* (AIDIS ABES and ANDIS, Eds.). Vol. 1. International Symposium on Sanitary and Environmental Engineering. ABES, AIDIS and ANDIS. Trento, Italy. pp. 1–10.
- Pozo, A., E. Ayala, S. Simani and E. Munoz (2021a). Indirect Speed Control Strategy for Maximum Power Point Tracking of the DFIG Wind Turbine System. *Revista Tecnica Energia* **17**(2), 92–101. ISSN: 2602–8492. DOI: 10.37116/REVISTAENERGIA.V17.N2.2021.426.
- Pozo, A., E. Ayala, S. Simani and E. Munoz (2021b). Indirect speed control strategy for maximum power pointtracking tr of the dfig wind turbine system. *Revista Tecnica Energia* **17**(2), 92–101. ISSN: 1390–5074. DOI: 10.37116/revistaenergia.v17.n2.2021.426.
- Pranovi, D., S. Simani and S. Beghelli (2001). Regolatore PID Autosintonizzante per il Controllo della Temperatura di una Caldaia. In: *56th Congresso Nazionale ATI* (snc effe erre congressi, Ed.). ATI, Associazione Termotecnica Italiana. effe erre congressi, snc. Napoli, Italy. (In Italian, Unpublished).
- Proceedings of the Workshop held in Bologna, Italy, on November 21–22, 2019* (2022). In: *15th European Workshop on Advanced Control and Diagnosis (ACD 2019)* (E. Zattoni, S. Simani and G. Conte, Eds.). Lecture Notes in Control and Information Sciences – Proceedings. Springer Cham. Bologna, Italy. ISSN: 2522-5383. ISBN: 978-3-030-85318-1. DOI: 10.1007/978-3-030-85318-1.
- Puig, Vicenc and Silvio Simani (2021a). *Diagnosis and Fault–Tolerant Control 1: Data–Driven and Model–Based Fault Diagnosis Techniques*. Vol. 1 of *ISTE*. John Wiley & Sons Ltd.. London, UK. ISBN: 9781119882329. DOI: 10.1002/9781119882329.
- Puig, Vicenc and Silvio Simani (2021b). *Diagnosis and Fault–Tolerant Control 2*. Chap. Conclusions, pp. 215–239. Vol. 2. John Wiley & Sons, Ltd. Hoboken, NJ, USA. ISBN: 9781119882350. DOI: 10.1002/9781119882350.ch7.

- Puig, Vicenc and Silvio Simani (2021c). *Diagnosis and Fault-Tolerant Control 2*. Chap. Open Research Issues, pp. 241–264. Vol. 2. John Wiley & Sons, Ltd. Hoboken, NJ, USA. ISBN: 9781119882350. DOI: 10.1002/9781119882350.ch8.
- Puig, Vicenc and Silvio Simani (2021d). *Diagnosis and Fault-Tolerant Control 2: From Fault Diagnosis to Fault-Tolerant Control*. Vol. 2 of *ISTE*. John Wiley & Sons Ltd.. London, UK. ISBN: 9781119882350. DOI: 10.1002/9781119882350.
- Ren, Chao, Bin Jiang, Ningyun Lu, Silvio Simani and Furong Gao (2023). Meta-learning with distributional similarity preference for few-shot fault diagnosis under varying working conditions. *IEEE Transactions on Cybernetics* pp. 1–11.
- Ren, Chao, Bin Jiang, Ningyun Lu, Silvio Simani and Furong Gao (2024). Meta-learning with distributional similarity preference for few-shot fault diagnosis under varying working conditions. *IEEE Transactions on Cybernetics* **54**(5), 2746–2756.
- Rovatti, R., C. Fantuzzi and S. Simani (2000). High-speed DSP-based implementation of piecewise-affine and piecewise-quadratic fuzzy systems. *Signal Processing Journal. Publisher: Elsevier* **80**(6), 951–963. Special Issue on Fuzzy Logic applied to Signal Processing. DOI: 10.1016/S0165-1684(00)00013-X.
- Rovatti, R., C. Fantuzzi, S. Simani and S. Beghelli (1998). Parameter Identification for Piecewise Linear Model with Weakly Varying Noise. In: *CDC'98*. Vol. 4. 1998 IEEE Conference on Decision and Control. Tampa, Florida. pp. 4488–4489. DOI: 10.1109/CDC.1998.762024.
- Ruiz, M., E. Inga and S. Simani (2020). Scalable electrical distribution networks planning for medium and low voltage considering capacity on transformers and voltage drop. In: *Smart Technologies, Systems and Applications – SmartTech-IC 2019* (F. Narvaez, D. Vallejo, P. Morillo and Proano J., Eds.). Vol. 1154 of *Communications in Computer and Information Science*. SmartTechIC. Springer. Quito, Ecuador. pp. 75–88. ISBN: 978-3-030-46784-5. DOI: 10.1007/978-3-030-46785-2.
- Ruiz, M., S. Simani, E. Inga and M. Jaramillo (2021). A novel algorithm for high compression rates focalized on electrical power quality signals. *Heliyon* **7**(3), 1–9. ISSN: 2405–8440. DOI: 10.1016/j.heliyon.2021.e06475.
- Shao, Lexuan, Ningyun Lu, Bin Jiang and Silvio Simani (2024). Feature generating network with attribute-consistency for zero-shot fault diagnosis. *IEEE Transactions on Industrial Informatics* **2024**(2024), 1–10. ISSN: 1941-0050. Web: ieeexplore.ieee.org/document/10445136.
- Shao, Lexuan, Ningyun Lu, Bin Jiang, Silvio Simani, Le Song and Zhengyuan Liu (2023). Improved generative adversarial networks with filtering mechanism for fault data augmentation. *IEEE Sensors Journal* **23**(13), 15176–15187.

- Simani, S. (1996). Ricostruzione di Strutture Tridimensionali da Sequenze di Immagini Digitali. Master's thesis. Dipartimento di Ingegneria, Università di Ferrara. Via Saragat, 1. 44100 Ferrara, Italy. (in italian).
- Simani, S. (1999a). Fuzzy multiple inference identification and its application to fault diagnosis of industrial processes. In: *ISAS'99/SCI'99*. Vol. 7. The Fifth Conference of the ISAS (Information Systems Analysis and Synthesis)/The Third Conference of the SCI (Systemics, Cybernetics and Informatics). Orlando, FL, USA. pp. 185–191.
- Simani, S. (1999b). Sensor fault diagnosis of a power plant: an approach based on state estimation techniques. In: *IMACS-IEEE'99* (N. E. Mastorakis, Ed.). Vol. Recent Advances in Signal Processing and Communications. International Conference on Computer Engineering in System Applications. World Scientific Engineering Society. Athens.. pp. 274–281.
- Simani, S. (2000a). Fault Diagnosis of a Power Plant at Different Operating Points using Neural Networks. In: *SAFEPROCESS2000*. Vol. 1. 4th Symposium on Fault Detection Supervision and Safety for Technical Processes. Budapest, Hungary. pp. 192–196. Invited session.
- Simani, S. (2000b). Model-Based Fault Diagnosis in Dynamic Systems Using Identification Techniques. PhD thesis. Department of Engineering, University of Ferrara, Italy. Via Saragat, 1. 44100 Ferrara, Italy. (In English).
- Simani, S. (2000c). Multi Model Based Fault Diagnosis of a Sugar Cane Crushing Process. In: *SAFEPROCESS2000*. Vol. 2. 4th Symposium on Fault Detection Supervision and Safety for Technical Processes. Budapest, Hungary. pp. 657–662.
- Simani, S. (2003a). Disturbance decoupled residuals for a chemical process. In: *SAFEPROCESS 2003* (Marcel Staroswiecki and N. Eva Wu, Eds.). Vol. 1. 5th Symposium on Fault Detection Supervision and Safety for Technical Processes. omnipress. Washington D.C., USA. pp. 987–992.
- Simani, S. (2004a). Hybrid model identification for fault diagnosis of non-linear dynamic processes. In: *2004 ACC – American Control Conference* (ACC, Ed.). Vol. 3. IEEE, AACC. IEEE. Boston, MA, USA. pp. 2445–2450.
- Simani, S. (2004b). Identification of a chemical process for fault detection application. In: *2004 ACC – American Control Conference* (ACC, Ed.). Vol. 4. IEEE, AACC. IEEE. Boston, MA, USA. pp. 4885–4890.
- Simani, S. (2004c). Identification techniques for chemical process fault diagnosis. In: *2004 ACC – American Control Conference*. Vol. 3. IEEE, AACC. IEEE. Boston, MA, USA. pp. 2469–2474.
- Simani, S. (2007a). Identification of Residual Generators for Fault Detection and Isolation of a Satellite Simulated Model. In: *European Control Conference 2007*

- *ECC'07* (ICCS EUCA, Ed.). Vol. CD–Rom. EUCA, ICCS, IFAC, ACPA & IEEE CSS. IEEE. Kos, Greece. pp. 2296–2303. ISBN: 978–3–9524173–8–6.
- Simani, S. (2011). Model–Based Fault Diagnosis for Dynamic Processes Using Identification Techniques. In: *Proceedings of the 10th International Science and Technology Conference on Diagnostics of Processes and Systems* (International Federation of Automatic Control IFAC, Ed.). Vol. <http://iair.mchtr.pw.edu.pl/dps11/>. Warsaw University of Technology, University of Zielona Góra, and Gdansk University of Technology. International Federation of Automatic Control - IFAC. Zamość, Poland. pp. 13–24. Invited Plenary Paper. Available from: <http://iair.mchtr.pw.edu.pl/dps11/>.
- Simani, S. (2012a). Application of a Data–Driven Fuzzy Control Design to a Wind Turbine Benchmark Model. *Advances in Fuzzy Systems* **2012**(Web: <http://www.hindawi.com/journals/afs/2012/504368/>), 1–12. Invited paper for the special issue: Fuzzy Logic Applications in Control Theory and Systems Biology (FLACE) . ISSN: 1687–7101, e-ISSN: 1687-711X. DOI: 10.1155/2012/504368.
- Simani, S. (2012b). Data–Driven Design of a PI Fuzzy Controller for a Wind Turbine Simulated Model. In: *Proceedings of the IFAC Conference on Advances in PID Control – PID'12* (R. Vilanova and A. Visioli, Eds.). Vol. 2. DII, Faculty of Engineering, University of Brescia, Italy. IFAC. University of Brescia, Brescia, Italy. pp. 667–672. Invited paper. ISBN: 978-3-902823-18-2. DOI: 10.3182/20120328–3–IT–3014.00113.
- Simani, S. (2013). Residual Generator Fuzzy Identification for Automotive Diesel Engine Fault Diagnosis. *International Journal of Applied Mathematics and Computer Science – AMCS* **23**(2), 419–438. Invited Contribution to the AMCS Quarterly. Organisers: Koscielny, M. J. and Syfert, M. ISSN: 1641–876X. DOI: 10.2478/amcs–2013–0032.
- Simani, S. (2015a). Advanced Issues of Wind Turbine Modelling and Control. In: *Proceedings of the 12th European Workshop on Advanced Control and Diagnosis (ACD 2015)*. Vol. 659 of *Journal of Physics: Conference Series*. p. 012001. IOP Publishing. Pilsen, Czech Republic. ISSN: 1742-6596. DOI: 10.1088/1742-6596/659/1/012001.
- Simani, S. (2015b). Overview of Modelling and Advanced Control Strategies for Wind Turbine Systems. *Energies* **8**(12), 13395–13418. Invited paper of the special issue "Wind Turbine 2015". ISSN: 1996-1073. DOI: 10.3390/en81112374.
- Simani, S. (2016). SUSTAINABLE CONTROL OF OFFSHORE WIND TURBINES. The blog of the IFAC. International Federation of Automatic Control. Paris, France. Available at: <http://blog.ifac-control.org/>.
- Simani, S. (2017a). Advanced issues of wind turbine modelling and control. In: *Proceedings of the 3rd World Congress on Automation and Robotics* (David Franklin,

- Ed.). Conferenceries Ltd. Conferenceries Ltd. San Diego, California, USA. pp. 1–10. Invited Paper and Talk.
- Simani, S. (2017b). Advanced modelling issues and sustainable control strategies for wind turbine systems. In: *Proceedings of the 6th European Workshop on Control Engineering for Industry – CEIND 2017* (Ralf Stetter and Marcin Witczak, Eds.). Faculty of Mechanical Engineering, University of Ravensburg–Weingarten. Faculty of Mechanical Engineering, University of Ravensburg–Weingarten. Weingarten, Germany. pp. 1–14. Special Issue Invited Paper and Talk.
- Simani, S. (2018). Fault detection, supervision and safety for energy conversion systems: Wind turbines and hydroelectric plants. The blog of the IFAC. International Federation of Automatic Control. Paris, France. Available at: <http://blog.ifac-control.org/>.
- Simani, S. and C. Fantuzzi (2000). Fault diagnosis in power plant using neural networks. *International Journal of Information Sciences*. Publisher: Elsevier **127**(3–4), 125–136. Special Issue: Applications to Intelligent Manufacturing and Fault Diagnosis: PART 1 – Fault Diagnosis. DOI: 10.1016/S0020-0255(00)00034-7.
- Simani, S. and C. Fantuzzi (2002). Neural networks for fault diagnosis and identification of industrial processes. In: *ESANN'02* (ESANN, Ed.). Vol. 1. Proc. of the 10th European Symposium on Artificial Neural Networks. Bruges, Belgium. pp. 489–494. Invited paper. ISBN: 2–930307–02–1.
- Simani, S. and C. Fantuzzi (2006a). PWA Dynamic Identification for Nonlinear Model Fault Detection. In: *Proceedings of the 6th IFAC Symposium on Fault Detection Supervision and Safety for Technical Processes – SAFEPROCESS 2006* (Z Zhang, Ed.). Vol. 2. Department of Automation, Tsinghua University, Beijing, China. Elsevier. Beijing, PR China. pp. 1121–1126. ISBN: 978–008044485–7. DOI: 10.3182/20060829–4–CN–2909.00187. DOI: DOI: 10.1016/B978–008044485–7/50189–5.
- Simani, S. and C. Turhan (2017). Adaptive signal processing strategy for a wind farm system fault accommodation. In: *Proceedings of the Intelligent Systems Conference 2017 – IntelliSys 2017* (Yaxin Bi, Ed.). IEEE. IEEE. London, UK. pp. 1–8. Invited Paper.
- Simani, S. and C. Turhan (2018a). Active fault tolerant control of a wind farm system. In: *Proceedings of the 10th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS'18* (IFAC, Ed.). Vol. 51. IFAC. Warsaw, Poland. pp. 1119–1126. DOI: 10.1016/j.ifacol.2018.09.728. ISSN: 2405–8963. Special session invited paper.
- Simani, S. and C. Turhan (2018b). Fault diagnosis of a wind turbine simulated model via neural networks. In: *Proceedings of the 10th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS'18* (IFAC, Ed.). Vol. 51. IFAC. Warsaw, Poland. pp. 381–388. DOI: 10.1016/j.ifacol.2018.09.605. ISSN: 2405–8963. Special session invited paper.

- Simani, S. and E. Ayala (2023). Robust control design solution for a permanent magnet synchronous generator of a wind turbine model. In: *Proceedings of SAI Intelligent Systems Conference – Intellisys 2022* (K. Arai, Ed.). Vol. 542 of *Intelligent Systems and Applications*. SAI. Springer, Cham. Amsterdam, The Netherlands. pp. 258–270. ISBN: 978-303116071-4. ISSN: 23673370. DOI: 10.1007/978-3-031-16072-1_19.
- Simani, S. and E. Zatonni (2021). Advanced control design and fault diagnosis. *Energies* **14**(18), 1–6. ISSN: 1996-1073 . DOI: 10.3390/en14185699.
- Simani, S. and John V. Ringwood (2015a). Introduction to the Special Section on Wind Turbines and Wave Energy Devices. *Annual Reviews in Control* **40**(2015), 25–26. Special issue invited paper. ISSN: 1367-5788. PII: S1367-5788(15)00036-X. DOI: 10.1016/j.arcontrol.2015.09.002.
- Simani, S. and John V. Ringwood (2015b). Overview of modelling and control strategies for wind turbines and wave energy devices: Comparison and contrasts. *Annual Reviews in Control* **40**(2015), 27–49. Special issue invited paper. ISSN: 1367-5788. PII: S1367-5788(15)00037-1 DOI: 10.1016/j.arcontrol.2015.09.003.
- Simani, S. and M. Benini (2007). Residual Generator Design for the FDI of Linear Multivariable Sampled-Data Dynamic Systems. In: *CDC2007 – 46-th IEEE Conference on Decision and Control* (EUCA IEEE, CSS, Ed.). Vol. 1. IEEE, CSS, EUCA. IEEE, CSS, EUCA. New Orleans, LA, U.S.A.. pp. 2602–2607. ISSN: 0191-2216. ISBN: 978-1-4244-1497-0. DOI: 10.1109/CDC.2007.4434178.
- Simani, S. and M. Bonfè (2009). Fuzzy modelling and control of the air system of a real diesel engine. *Advances in Fuzzy Systems* **2009**, 1–14. Special issue invited paper. ISSN: 1687-7101, e-ISSN: 1687-711X. DOI: <http://dx.doi.org/10.1155/2009/450259>.
- Simani, S. and P. Castaldi (2011). Estimation of the Power Coefficient Map for a Wind Turbine System. In: *Proceedings of the 9th European Workshop on Advanced Control and Diagnosis – ACD 2011* (BME Budapest University of Technology and Economics, Eds.). number Paper 13. MTA SZTAKI Computer and Automation Research Institute, Hungarian Academy of Sciences, and BME Budapest University of Technology and Economics. BME Budapest University of Technology and Economics. Budapest, Hungary. pp. 1–7. Invited Paper. Sponsored by IEEE Control System Society. Available from: <http://www.conferences.hu/acd2011/>.
- Simani, S. and P. Castaldi (2012a). Adaptive fault-tolerant control design approach for a wind turbine benchmark. In: *8th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes – SAFEPROCESS 2012* (C. M. Astorga-Zaragoza and A. Molina, Eds.). Vol. 8. Instituto de Ingeniería, Circuito escolar, Ciudad Universitaria, CP 04510, México D.F.. IFAC. Mexico City, Mexico. pp. 319–324. Invited session paper. ISBN: 978-3-902823-09-0. ISSN: 1474-6670. DOI: 10.3182/20120829-3-MX-2028.00066.

- Simani, S. and P. Castaldi (2012*b*). Data-Driven Active and Passive Fault Tolerant Control Applications to a Wind Turbine Model. In: *Sustainable Control of Off-shore Wind Turbines*. Vol. 1. University of Hull, Centre for Adaptive Science and Sustainability CASS. University of Hull, Centre for Adaptive Science and Sustainability CASS. Hull University Business School, Hull, UK. p. 17.
- Simani, S. and P. Castaldi (2012*c*). Data-driven design of fuzzy logic fault tolerant control for a wind turbine benchmark. In: *8th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes – SAFEPROCESS 2012* (C. M. Astorga-Zaragoza and A. Molina, Eds.). Vol. 8. Instituto de Ingeniería, Circuito escolar, Ciudad Universitaria, CP 04510, México D.F.. IFAC. Mexico City, Mexico. pp. 108–113. Invited session paper. ISBN: 978-3-902823-09-0. ISSN: 1474-6670. DOI: 10.3182/20120829-3-MX-2028.00036.
- Simani, S. and P. Castaldi (2012*d*). Residual Generator Functions for Linear Multivariable Process Fault Detection. In: *Proceedings of the 10th European Workshop on Advanced Control and Diagnosis – ACD’12*. Technical University of Denmark (DTU). DTU. Copenhagen, Denmark. pp. 1–8.
- Simani, S. and P. Castaldi (2013*a*). Data-Driven and Adaptive Control Applications to a Wind Turbine Benchmark Model. *Control Engineering Practice* **21**(12), 1678–1693. Special Issue Invited Paper. ISSN: 0967-0661. PII: S0967-0661(13)00155-X. DOI: <http://dx.doi.org/10.1016/j.conengprac.2013.08.009>.
- Simani, S. and P. Castaldi (2013*b*). Identification-oriented control designs with application to a wind turbine benchmark. *International Journal of Advanced Computer Science and Applications – IJACSA* **4**(7), 184–191. Invited paper. ISSN: 2156-5570.
- Simani, S. and P. Castaldi (2015). Special Issue: Safety, Fault Diagnosis and Fault Tolerant Control in Aerospace Systems. *International Journal of Applied Mathematics and Computer Science – AMCS* **25**(1), 5–6. Special Issue Paper. Editors and Organisers: Simani, S. and Castaldi, P. ISSN: 1641-876X. DOI: 10.1515/amcs-2015-0000.
- Simani, S. and P. Castaldi (2017). Robust Control Examples Applied to a Wind Turbine Simulated Model. *Applied Sciences* **8**(29), 1–28. DOI: 10.3390/app8010029. Invited paper for the special issue ”Renewable Energy 2018”.
- Simani, S. and P. Castaldi (2018*a*). Adaptive Robust Control and its Applications. In: *Robust Control Applications to a Wind Turbine Simulated System* (Anh Tuan Le, Ed.). Chap. 11, pp. 217–233. InTech. Rijeka, Croatia. ISBN: 978-953-51-5729-8. DOI: 10.5772/intechopen.71526.
- Simani, S. and P. Castaldi (2018*b*). Adaptive signal processing strategy for a wind farm system fault accommodation. In: *Proceedings of the 10th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS’18* (IFAC, Ed.). Vol. 51. IFAC. Warsaw, Poland. pp. 52–59. DOI: 10.1016/j.ifacol.2018.09.528. ISSN: 2405-8963. Special session invited paper.

- Simani, S. and P. Castaldi (2019a). *Fault Detection, Diagnosis and Prognosis*. Chap. Fault Diagnosis Techniques for a Wind Turbine System, pp. 1–18. Vol. 1. IntechOpen. London, UK. ISBN: 978-1-78984-214-2. DOI: 10.5772/intechopen.83810.
- Simani, S. and P. Castaldi (2019b). Fault Diagnosis Techniques for a Wind Turbine System. In: *Prognostics* (Fausto Pedro Garcia Marquez, Ed.). 1st ed.. pp. 1–19. InTech. London, United Kingdom. DOI: 10.5772/intechopen.83810. ISBN: 978-1-78984-214-2.
- Simani, S. and P. Castaldi (2019c). Intelligent fault diagnosis techniques applied to an offshore wind turbine system. *Applied Sciences* **9**(783), 1–16. DOI: 10.3390/app9040783.
- Simani, S. and P. Castaldi (2020). *A Closer Look at Fault-Tolerant Control*. Chap. Concepts and Methods in Fault Tolerant Control with Application to a Wind Turbine Simulated System, pp. 1–30. Systems Engineering Methods, Developments and Technology. 1st ed.. Nova Science Publishers. Hauppauge, NY, USA. ISBN: 978-1-53617-528-8.
- Simani, S. and P. R. Spina (1998). Kalman filtering to enhance the gas turbine control sensor fault detection. In: *6th IEEE Med '98*. The 6th IEEE Mediterranean Conference on Control and Automation. Alghero, Sardinia, Italy. pp. 443–450. DOI: 10.1109/CCA.1998.728322.
- Simani, S. and R. Diversi (2003). Residual generation and identification for dynamic processes. In: *SAFEPROCESS 2003* (Marcel Staroswiecki and N. Eva Wu, Eds.). Vol. 1. 5th Symposium on Fault Detection Supervision and Safety for Technical Processes. omnipress. Washington D.C., USA. pp. 375–380.
- Simani, S. and R. Diversi (2006). Residual Generator Identification and Design for Linear Multivariable Systems. In: *Proceedings of the 6th IFAC Symposium on Fault Detection Supervision and Safety for Technical Processes – SAFEPROCESS 2006* (Z Zhang, Ed.). Vol. 2. Department of Automation, Tsinghua University, Beijing, China. Elsevier. Beijing, PR China. pp. 890–895. ISBN: 978-008044485-7. DOI: 10.3182/20060829-4-CN-2909.00148. DOI: 10.1016/B978-008044485-7/50150-0.
- Simani, S. and R. J. Patton (1999). Identification and fault diagnosis of a simulated model of an industrial gas turbine. Technical Report 1. Department of Electronic Engineering at the University of Hull. Hull, UK.
- Simani, S. and R. J. Patton (2002a). Model-based data-driven approaches to robust fault diagnosis in chemical processes. In: *IFAC'02* (L. Basanez and J. A. de la Puente, Eds.). Vol. 15. 15th IFAC World Congress on Automatic Control. Barcelona, Spain. pp. 294–299. Invited paper. DOI: 10.3182/20020721-6-ES-1901.00405.

- Simani, S. and R. J. Patton (2002*b*). Neural networks for fault diagnosis of industrial plants at different working points. In: *ESANN'02* (ESANN, Ed.). Vol. 1. Proc. of the 10th European Symposium on Artificial Neural Networks. Bruges, Belgium. pp. 495–500. Invited paper. ISBN: 2-930307-02-1.
- Simani, S. and R. J. Patton (2008). Fault diagnosis of an industrial gas turbine prototype using a system identification approach. *Control Engineering Practice* **16**(7), 769–786. Publisher: Elsevier Science. ISSN: 0967-0661. DOI: 10.1016/j.conengprac.2007.08.009.
- Simani, S. and R. J. Patton (2009). A System Identification Approach for the FDI of an Industrial Gas Turbine Model. In: *European Control Conference 2009 – ECC'09* (EUCA 2009, Ed.). Vol. CD Rom. International Federation of Automatic Control IFAC – IEEE Control System Society CSS. Budapest, Hungary. pp. 3689–3694. Invited paper. ISBN 978-963-311-369-1.
- Simani, S. and R. J. Patton (2015). Chemical Process Disturbance Compensation as a Fault Tolerant Control Problem. In: *Proceedings of the 9th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS'15* (IFAC, Ed.). Vol. 48. IFAC. Paris, France. pp. 1102–1107. DOI: 10.1016/j.ifacol.2015.09.674. ISBN: 978-3-642-27644-6. ISSN: 1474-6670. Special session invited paper.
- Simani, S. and S. Beghelli (2007). PID Controller Design Application Based on a Boiler Process Model Identification. In: *CDC2007. 46-th IEEE Conference on Decision and Control* (EUCA IEEE, CSS, Ed.). Vol. 1. IEEE, CSS, EUCA. IEEE, CSS, EUCA. New Orleans, LA, U.S.A.. pp. 1064–1069. ISBN: 978-1-4244-1497-0. ISSN: 0191-2216. DOI: 10.1109/CDC.2007.4434092.
- Simani, S. and S. Farsoni (2018). *Fault Diagnosis and Sustainable Control of Wind Turbines: Robust data-driven and model-based strategies*. Mechanical Engineering. 1st ed.. Butterworth-Heinemann – Elsevier. Oxford (UK). ISBN: 9780128129845.
- Simani, S. and S. Farsoni (2022). Hardware-in-the-loop assessment of fuzzy and neural network fault diagnosis schemes for a wind turbine model. In: *Proceedings of the 11th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS 2022* (S. Timotheou, Ed.). Vol. 55 of *IFAC-PapersOnLine*. IFAC. Elsevier. Pafos, Cyprus. pp. 91–95. ISSN: 2405-8963. DOI: 10.1016/j.ifacol.2022.07.111.
- Simani, S., C. Fantuzzi and P. R. Spina (1998*a*). Application of a neural network in gas turbine control sensor fault detection. In: *CCA '98*. Vol. 1. 1998 IEEE Conference on Control Applications. Trieste, Italy. pp. 182–186. DOI: 10.1109/CCA.1998.728322.
- Simani, S., C. Fantuzzi and R. J. Patton (2000*a*). Fault diagnosis of a simulated model of an industrial gas turbine prototype using identification techniques. Technical

report. Dipartimento di Ingegneria, Università di Ferrara. Via Saragat, 1. 44100 Ferrara, Italy.

- Simani, S., C. Fantuzzi and R. J. Patton (2003a). *Model-based fault diagnosis in dynamic systems using identification techniques*. Vol. 1 of *Advances in Industrial Control*. first ed.. Springer–Verlag. London, UK. ISBN: 1852336854.
- Simani, S., C. Fantuzzi and S. Beghelli (1999a). Improved observer for sensor fault diagnosis of a power plant. In: *MED99. The 7th IEEE Mediterranean Conference on Control & Automation*. Vol. 1. Haifa, Israel. pp. 826–834.
- Simani, S., C. Fantuzzi and S. Beghelli (2000b). Diagnosis techniques for sensor faults of industrial processes. *IEEE Transactions on Control Systems Technology* **8**(5), 848–855. DOI: 10.1109/87.865858.
- Simani, S., C. Fantuzzi and S. Beghelli (2000c). Identification and fault diagnosis of non–linear dynamic processes using hybrid models. In: *CDC’00 (IEEE CSS, Ed.)*. Vol. 3. 2000, 39th IEEE Conference on Decision and Control. IEEE CSS. Sydney, Australia. pp. 2621–2626. DOI: 10.1109/CDC.2000.914200.
- Simani, S., C. Fantuzzi and S. Beghelli (2001). Fuzzy system identification and fault diagnosis of industrial processes. In: *ECC’01. European Control Conference 2001*. Porto, Portugal. pp. 1624–1630.
- Simani, S., C. Fantuzzi, R. Rovatti and S. Beghelli (1998b). Noise rejection in parameters identification for piecewise linear fuzzy models. In: *WCCI’98, FUZZ-IEEE’98*. Vol. 1. 1998 IEEE International Conference on Fuzzy Systems. Anchorage, Alaska. pp. 378–383. DOI: 10.1109/FUZZY.1998.687515.
- Simani, S., C. Fantuzzi, R. Rovatti and S. Beghelli (1999b). Non–linear algebraic system identification via piecewise affine models in stochastic environment. In: *CDC’99 (IEEE CSS, Ed.)*. Vol. 1. 1999 IEEE Conference on Decision and Control. Phoenix, AZ, USA. pp. 1083–1088. DOI: 10.1109/CDC.1999.832940.
- Simani, S., C. Fantuzzi, R. Rovatti and S. Beghelli (1999c). Parameter identification for piecewise linear fuzzy models in noisy environment. *International Journal of Approximate Reasoning* **1**(22), 149–167. Publisher: Elsevier.
- Simani, S., C. Fantuzzi, R. Rovatti and S. Beghelli (2000d). Nonlinear dynamic system modelling in noisy environment using multiple model approach. In: *ACC’00*. Vol. 4. American Control Conference. OmniPress. Chicago, Illinois, USA. pp. 2332–2336. DOI: 10.1109/ACC.2000.878596.
- Simani, S., C. Fantuzzi, R. Rovatti and S. Beghelli (2003b). Parameter identification of piecewise affine dynamic models from input–output data. In: *ADHS03 – IFAC Conference on Analysis and Design of Hybrid Systems* (S. Engell, H. Guéguen and J. Zaytoon, Eds.). Vol. 1. IFAC. Supélec. Saint–Malo, Brittany, FRANCE. pp. 28–33.

- Simani, S., E. Mucchi and M. Bonfè (2015*a*). AIR ENERGY – Renewable Energy from Road Turbulent Air. In: *Proceedings of the 9th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS'15* (IFAC, Ed.). Vol. 48. IFAC. Paris, France. pp. 15–16. Poster. Available from: <http://safeprocess15.sciencesconf.org/resource/page/id/32>.
- Simani, S., F. Marangon and C. Fantuzzi (1999*d*). Fault diagnosis in a power plant using artificial neural networks: analysis and comparison. In: *ECC'99. European Control Conference 1999*. Karlsruhe, Germany. pp. 1–6.
- Simani, S., M. Bonfè, P. Castaldi and W. Geri (2006). Application of Fault Diagnosis Methodologies to a General Aviation Aircraft. In: *Proceedings of the 6th IFAC Symposium on Fault Detection Supervision and Safety for Technical Processes – SAFEPROCESS 2006* (Z Zhang, Ed.). Vol. 39. Department of Automation, Tsinghua University, Beijing, China. Elsevier. Beijing, PR China. pp. 180–185. ISBN: 978–008044485–7. DOI: 10.3182/20060829–4–CN–2909.00029. DOI: 10.1016/B978–008044485–7/50031–2.
- Simani, S., M. Bonfè, P. Castaldi and W. Geri (2007*a*). Design and Performance Analysis of Residual Generators for the FDI of Aircraft Model Sensors. In: *ACA2007 – 17th IFAC Symposium on Automatic Control in Aerospace* (Houria Siguerdidjane, Ed.). Vol. 17. IFAC ACA. IFAC. Toulouse, France. pp. 1–6. ISBN: 978–1605607344. DOI: 10.3182/20070625–5–FR–2916.00017.
- Simani, S., M. Bonfè, P. Castaldi and W. Geri (2007*b*). Residual Generator Design and Performance Evaluation for Aircraft Simulated Model FDI. In: *CCA 2007. 16th IEEE International Conference on Control Applications* (IEEE, Ed.). Vol. CD–Rom. IEEE. 2007 Omnipress IEEE. Singapore, Malaysia. pp. 1043–1048. Part of IEEE Multi–Conference on Systems and Control. DOI: 10.1109/ISIC.2007.4359655. ISBN: 1–4244–0443–6. ISSN: 1085–1992.
- Simani, S., P. Castaldi and A. Tilli (2011*a*). Data–Driven Approach for Wind Turbine Actuator and Sensor Fault Detection and Isolation. In: *Proceedings of the 18th IFAC World Congress* (S. Bittanti, A. Cenedese and S. Zampieri, Eds.). Vol. 18. International Federation of Automatic Control (IFAC). IFAC–PapersOnLine. Università Cattolica del Sacro Cuore, Milan, Italy. pp. 8301–8306. Special Session Invited Paper. DOI: 10.3182/20110828–6–IT–1002.00447.
- Simani, S., P. Castaldi and A. Tilli (2012). Data–driven Modelling of a Wind Turbine Benchmark for Fault Diagnosis Application. *Transaction on Control and Mechanical Systems* 1(7), 278–289. Transaction Series on Engineering Science and Technologies. Journal Code: E220088. ISSN: 2345–234X. Available on–line at: <http://tsest.org/index.php/TCMS/article/view/107>.
- Simani, S., P. Castaldi and C. Turhan (2019*a*). Fuzzy modelling for sustainable control of wind park systems. In: *Proceedings of the 2019 4th Conference on Control and Fault Tolerant Systems – SysTol* (Jean-Philippe Georges, Ed.). IEEE. IEEE. Casablanca, Morocco. pp. 384–389.

- Simani, S., P. Castaldi and M. Bonfè (2010). Data-Driven and Model-Based Fault Diagnosis of Wind Turbine Sensors. In: *Proceedings of the 8th European Workshop on Advanced Control and Diagnosis – ACD2010* (S. Simani, Ed.). number FrB1.6. Faculty of Engineering, University of Ferrara, Ferrara, Italy. Grafema. 44049 Vigarano Mainarda. Ferrara, Italy. Faculty of Engineering. Via Saragat, 1. 44122 Ferrara (FE), Italy. pp. 332–337. Available on-line at: www.acd2010.it.
- Simani, S., P. Castaldi and M. Bonfè (2011*b*). Hybrid Model-Based Fault Detection of Wind Turbine sensors. In: *Proceedings of the 18th IFAC World Congress* (S. Bittanti, A. Cenedese and S. Zampieri, Eds.). Vol. 18. International Federation of Automatic Control (IFAC). IFAC-PapersOnLine. Università Cattolica del Sacro Cuore, Milan, Italy. pp. 7061–7066. Special Session Invited Paper. DOI: 10.3182/20110828-6-IT-1002.01311.
- Simani, S., P. Castaldi and N. Mimmo (2016*a*). Fault Diagnosis and Fault Tolerant Control Strategies for Aerospace Systems. In: *Proceedings of the 3rd International Conference on Control and Fault-Tolerant Systems – SysTol’16* (IEEE Control Systems Society, Ed.). Research Center for Supervision, Safety and Automatic Control of the Universitat Politècnica de Catalunya in Barcelona. IEEE. Barcelona, Spain. pp. 684 – 689. ISBN: 978-5090-0657-1. ISSN: 2162-1209. DOI: 10.1109/SYSTOL.2016.7739828. Special session invited paper.
- Simani, S., P. Castaldi and S. Farsoni (2016*b*). Adaptive Nonlinear Filters for Joint Fault Estimation and Accommodation of a Wind Farm Benchmark. In: *Proceedings of the 3rd International Conference on Control and Fault-Tolerant Systems – SysTol’16* (IEEE Control Systems Society, Ed.). Research Center for Supervision, Safety and Automatic Control of the Universitat Politècnica de Catalunya in Barcelona. IEEE. Barcelona, Spain. pp. 642 – 647. ISBN: 978-5090-0657-1. ISSN: 2162-1209. DOI: 10.1109/SYSTOL.2016.7739821. Special session invited paper.
- Simani, S., P. Castaldi and S. Farsoni (2017). Data-driven fault diagnosis of a wind farm benchmark model. *Energies* **10**(7), 1–26. Invited paper for the special issue “Wind Turbine 2017”. ISSN: 1996-1073. DOI: 10.3390/en10070866.
- Simani, S., P. Castaldi and S. Farsoni (2021*a*). Fault Diagnosis and Fault-Tolerant Control for Avionic Systems. In: *IntelliSys 2020: Intelligent Systems and Applications* (K. Arai, S. Kapoor and R. Bhatia, Eds.). Vol. 1250 of *Advances in Intelligent Systems and Computing*. Chap. 16, pp. 191–201. Springer. Cham, Swiss. ISBN: 978-3-030-55179-7. DOI: 10.1007/978-3-030-55180-3_16.
- Simani, S., P. R. Spina, S. Beghelli, R. Bettocchi and C. Fantuzzi (1998*c*). Fault detection and isolation based on dynamic observers applied to gas turbine control sensors. In: *ASME TURBO EXPO LAND, SEA & AIR ’98*. number 98-GT-158 In: *ASME*. The 43rd ASME Gas Turbine and Aeroengine Congress, Exposition and Users Symposium. STOCKHOLM INTERNATIONAL FAIR. Stockholm, Sweden. pp. 1–11. DOI: 10.1115/98-GT-158. ISBN: 978-0-7918-7866-8.

- Simani, S., R. J. Patton, Steve Daley and Andrew Pike (2000e). Identification and fault diagnosis of an industrial gas turbine prototype model. In: *CDC'00* (IEEE CSS, Ed.). Vol. 3. 2000, 39th IEEE Conference on Decision and Control. Sydney, Australia. pp. 2615–2620. DOI: 10.1109/CDC.2000.914199.
- Simani, S., S. Alvisi and M. Venturini (2014a). Study of the Time Response of a Simulated Hydroelectric System. In: *Preprints of the 11th European Workshop on Advanced Control and Diagnosis – EACD 2014* (H. Schulte and S. Georg, Eds.). HTW Berlin, University of Applied Sciences. Berlin, Germany. pp. 304–316.
- Simani, S., S. Alvisi and M. Venturini (2014b). Study of the Time Response of a Simulated Hydroelectric System. In: *Journal of Physics: Conference Series* (H. Schulte and S. Georg, Eds.). Vol. 570 of *Conference Series*. pp. 1–13. IOP Publishing Limited. Bristol, United Kingdom. ISSN: 1742–6596. DOI: 10.1088/1742-6596/570/5/052003.
- Simani, S., S. Alvisi and M. Venturini (2015b). Data–Driven Design of a Fault Tolerant Fuzzy Controller for a Simulated Hydroelectric System. In: *Proceedings of the 9th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS'15* (IFAC, Ed.). Vol. 48. IFAC. Paris, France. pp. 1090–1095. DOI: 10.1016/j.ifacol.2015.09.672. ISBN: 978–3–642–27644–6. ISSN: 1474–6670. Special session invited paper.
- Simani, S., S. Alvisi and M. Venturini (2016c). Fault Tolerant Control of a Simulated Hydroelectric System. *Control Engineering Practice* **51**, 13–25. DOI: <http://dx.doi.org/10.1016/j.conengprac.2016.03.010>.
- Simani, S., S. Alvisi and M. Venturini (2016d). Fault Tolerant Model Predictive Control Applied to a Simulated Hydroelectric System. In: *Proceedings of the 3rd International Conference on Control and Fault–Tolerant Systems – SysTol'16* (IEEE Control Systems Society, Ed.). Research Center for Supervision, Safety and Automatic Control of the Universitat Politècnica de Catalunya in Barcelona. IEEE. Barcelona, Spain. pp. 251–256. ISBN: 978–5090–0657–1. ISSN: 2162-1209. DOI: 10.1109/SYSTOL.2016.7739759. Special session invited paper.
- Simani, S., S. Alvisi and M. Venturini (2019b). Data–driven control techniques for renewable energy conversion systems: Wind turbine and hydroelectric plants. *Electronics* **8**(237), 1–18. DOI: 10.3390/electronics8020237.
- Simani, S., S. Alvisi and M. Venturini (2019c). Fuzzy control techniques applied to wind turbine systems and hydroelectric plants. In: *Proceedings of the 2019 IEEE International Conference on Fuzzy Systems FUZZ–IEEE*. Vol. 2019 of *IEEE Computational Intelligence Society*. IEEE. IEEE. New Orleans, USA. pp. 1–6. DOI: 10.1109/FUZZ-IEEE.2019.8858926.
- Simani, S., S. Alvisi and M. Venturini (2019d). Fuzzy Control Techniques for Energy Conversion Systems. In: *Proceedings of the Intelligent Systems Conference 2019*

- *IntelliSys 2019* (Yaxin Bi, Ed.). Vol. 1 of *Intelligent Systems and Applications*. Springer. London, UK. pp. 943–955. ISBN: 978-3-030-29515-8. DOI: 10.1007/978-3-030-29516-5_71. Invited Paper.
- Simani, S., S. Alvisi and M. Venturini (2019e). Fuzzy control techniques for energy conversion systems. In: *Proceedings of the Intelligent Systems Conference, IntelliSys 2019*. Vol. 1037 of *Advances in Intelligent Systems and Computing*. SAI. Springer Verlag. London, UK. pp. 943–955. ISBN: 978-303029515-8. DOI: 10.1007/978-3-030-29516-5_71.
- Simani, S., S. Alvisi and M. Venturini (2019f). Fuzzy control techniques for energy conversion systems: Wind turbine and hydroelectric plants. In: *Proceedings of the 2019 4th Conference on Control and Fault Tolerant Systems – SysTol* (Jean-Philippe Georges, Ed.). IEEE. IEEE. Casablanca, Morocco. pp. 366–371. DOI: 10.1109/SYSTOL.2019.8864794.
- Simani, S., S. Alvisi and M. Venturini (2019g). Self-tuning control techniques for wind turbine and hydroelectric plant systems. *Journal of Power and Energy Engineering* **7**(1), 27–61. DOI: 10.4236/jpee.2019.71003.
- Simani, S., S. Alvisi and M. Venturini (2019h). Simulation and experimental validation of fuzzy control techniques for wind turbine system and hydroelectric plant. In: *Proceedings of the 15th European Workshop on Advanced Control and Diagnosis – ACD 2019* (G. Conte, Ed.). Lecture Notes in Control and Information Sciences – Proceedings. Alma Mater Studiorum, University of Bologna. Springer. Bologna, Italy. pp. 1–16.
- Simani, S., S. Alvisi and M. Venturini (2022a). Hardware-in-the-loop assessment of robust fuzzy control solutions for hydroelectric and wind turbine models. In: *Proceedings of the 11th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS 2022* (S. Timotheou, Ed.). Vol. 55 of *IFAC-PapersOnLine*. IFAC. Elsevier. Pafos, Cyprus. pp. 445–450. ISSN: 2405–8963. DOI: 10.1016/j.ifacol.2022.07.169.
- Simani, S., S. Farsoni and C. Turhan (2022b). Hardware-in-the-loop assessment of a fault tolerant fuzzy control scheme for an offshore wind farm simulator. In: *Proceedings of the 11th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS 2022* (S. Timotheou, Ed.). Vol. 55 of *IFAC-PapersOnLine*. IFAC. Elsevier. Pafos, Cyprus. pp. 390–395. ISSN: 2405–8963. DOI: 10.1016/j.ifacol.2022.07.160.
- Simani, S., S. Farsoni and P. Castaldi (2013a). Active fault tolerant control of wind turbines using identified nonlinear filters. In: *Proceedings of the 2nd International Conference on Control and Fault-Tolerant Systems – SysTol’13* (IEEE Control Systems Society, Ed.). Centre de Recherche en Automatique de Nancy – CRAN. IEEE. Nice, France. pp. 383–388. Special session invited paper. ISBN: 978-1-4799-2854-5. DOI: 10.1109/SysTol.2013.6693827.

- Simani, S., S. Farsoni and P. Castaldi (2013*b*). Robust Actuator Fault Diagnosis of a Wind Turbine Benchmark Model. In: *Proceedings of the 52nd IEEE Conference on Decision and Control – CDC2013* (IEEE Control Systems Society, Ed.). IEEE Control Systems Society. IEEE. Florence, Italy. pp. 4422–4427. Invited Paper. ISBN: 978–1–4673–5716–6. DOI: 10.1109/CDC.2013.6760570.
- Simani, S., S. Farsoni and P. Castaldi (2014*c*). Fault Tolerant Control Design for a Wind Farm Benchmark via Fuzzy Modelling and Identification. In: *Proc. of the 2014 IEEE Multi-Conference on Systems and Control – IEEE MSC 2014*. IEEE. Antibes/Nice, France. pp. 2208–2213. ISBN: 978-1-4799-7405-4. Invited paper for the special session "Intelligent and Fault-Tolerant Control" organised by M. Witczak and V. Puig. DOI: 10.1109/ISIC.2014.6967650.
- Simani, S., S. Farsoni and P. Castaldi (2014*d*). Fault tolerant control of an offshore wind turbine model via identified fuzzy prototypes. In: *Proceedings of the 2014 UKACC International Conference on Control (CONTROL)* (James F. Whidborne, Ed.). UKACC (United Kingdom Automatic Control Council). IEEE. Loughborough University, Loughborough, UK. pp. 494–499. ISBN: 9781467306874. Special session invited paper. DOI: 10.1109/CONTROL.2014.6915188.
- Simani, S., S. Farsoni and P. Castaldi (2014*e*). Residual generator fuzzy identification for wind farm fault diagnosis. In: *Proceedings of the 19th World Congress of the International Federation of Automatic Control – IFAC'14*. Vol. 19. IFAC & South Africa Council for Automation and Control. IFAC. Cape Town, South Africa. pp. 4310–4315. Invited paper for the special session "FDI and FTC of Wind Turbines in Wind Farms" organised by P. F. Odgaard and S. Simani. DOI: 10.3182/20140824-6-ZA-1003.00052.
- Simani, S., S. Farsoni and P. Castaldi (2014*f*). Residual Generator Fuzzy Identification for Wind Turbine Benchmark Fault Diagnosis. *Machines* **2**(1), 275–298. ISSN: 2075–1702. Special issue invited paper "Machinery Diagnostics and Prognostics". DOI: 10.3390/machines2040275.
- Simani, S., S. Farsoni and P. Castaldi (2015*c*). Fault-Tolerant Control of an Offshore Wind Farm via Fuzzy Modelling and Identification. In: *Proceedings of the 9th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS'15* (IFAC, Ed.). Vol. 48. IFAC. Paris, France. pp. 1345–1350. DOI: 10.1016/j.ifacol.2015.09.712. ISBN: 978–3–642–27644–6. ISSN: 1474–6670. Special session invited paper.
- Simani, S., S. Farsoni and P. Castaldi (2015*d*). Fault-Tolerant Control of Offshore Wind Farm Installations via Adaptive Nonlinear Filters. In: *Proceedings of the International Conference on Systems Engineering – ICSE 2015*. Control Theory and Applications Centre, Faculty of Engineering and Computing, Coventry University Technology Park. IEEE. Coventry, UK. (Accepted).

- Simani, S., S. Farsoni and P. Castaldi (2015*e*). Fault Diagnosis of a Wind Turbine Benchmark via Identified Fuzzy Models. *IEEE Transactions on Industrial Electronics* **62**(6), 3775–3782. Invited paper for the special issue "Real-time fault diagnosis and fault tolerant control". DOI: 10.1109/TIE.2014.2364548.
- Simani, S., S. Farsoni and P. Castaldi (2015*f*). Wind Turbine Simulator Fault Diagnosis via Fuzzy Modelling and Identification Techniques. *Sustainable Energy, Grids and Networks* **1**(1), 45–52. ISSN: 2352–4677. DOI: 10.1016/j.segan.2014.12.001. PII: S2352–4677(15)00006–5.
- Simani, S., S. Farsoni and P. Castaldi (2016*e*). Fuzzy Modelling and Identification for Sustainable Control Design of an Offshore Wind Farm. In: *Proc. of the 2nd International Conference on Offshore Renewable Energy – CORE 2016*. Vol. 1. ASRANet Ltd, UK. Glasgow, UK. pp. 159–168. ISBN: 978–0–9930121–8–1.
- Simani, S., S. Farsoni and P. Castaldi (2018). Data-Driven Techniques for the Fault Diagnosis of a Wind Turbine Benchmark. *International Journal of Applied Mathematics and Computer Science – AMCS* **28**(2), 247–268. DOI: 10.2478/amcs-2018-0018.
- Simani, S., S. Farsoni and P. Castaldi (2019*i*). Artificial intelligence fault diagnosis techniques applied to a wind turbine simulator. In: *Proceedings of the 2019 4th Conference on Control and Fault Tolerant Systems – SysTol* (Jean-Philippe Georges, Ed.). IEEE. Casablanca, Morocco. pp. 372–377.
- Simani, S., S. Farsoni and P. Castaldi (2019*j*). Validation of artificial intelligence fault diagnosis design techniques for a wind turbine system. In: *Proceedings of the 15th European Workshop on Advanced Control and Diagnosis – ACD 2019* (G. Conte, Ed.). Lecture Notes in Control and Information Sciences – Proceedings. Alma Mater Studiorum, University of Bologna. Springer. Bologna, Italy. pp. 1–20.
- Simani, S., S. Farsoni and P. Castaldi (2021*b*). *Intelligent Computing*. Chap. Application of Data-Driven Fault Diagnosis Design Techniques to a Wind Turbine Test-Rig, pp. 23–38. Vol. 284 of *Lecture Notes in Networks and Systems*. Springer. Cham, Germany. ISBN: 978-3-030-80126-7. DOI:10.1007/978-3-030-80126-7-3.
- Simani, S., S. Farsoni and P. Castaldi (2022*c*). Data-driven and model-based control techniques for a wind turbine benchmark model. *International Journal of Robotics and Automation Technology* **9**(1), 78–95. ISSN: 2409-9694. DOI: 10.31875/2409-9694.2022.09.08.
- Simani, S., S. Farsoni and P. Castaldi (2024*a*). Wind turbine data-driven intelligent fault detection. In: *Proceedings of the Intelligent Systems Conference 2023 (IntelliSys 2023)* (K. Arai, Ed.). Vol. 2 of *Lecture Notes in Networks and Systems*. SAI. Springer, Cham. Amsterdam, The Netherlands. pp. 1–. ISBN: 978-3-031-47723-2. ISSN: 2367-3389. DOI: 10.1007/978-3-031-47724-9_4.

- Simani, S., S. Farsoni, M. Bonfè and P. Castaldi (2014*g*). Fault Diagnosis of Offshore Wind Turbines via Identified Fuzzy Residual Generators. In: *Proceedings of Automatica.it 2014 – National Congress of the Italian Society of Academics and Researchers in Automatic Control* (F. Previdi, Ed.). University of Bergamo, Sant’Agostino branch. University of Bergamo. Bergamo, Italy. pp. 1–6. Invited paper.
- Simani, S., S. Farsoni, P. Castaldi and M. Menghini (2022*d*). Actuator fault reconstruction via dynamic neural networks for an autonomous underwater vehicle model. In: *Proceedings of the 11th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS 2022* (S. Timotheou, Ed.). Vol. 55 of *IFAC–PapersOnLine*. IFAC. Elsevier. Pafos, Cyprus. pp. 755–759. ISSN: 2405-8963. DOI: 10.1016/j.ifacol.2022.07.217.
- Simani, S., S. Farsoni, P. Castaldi and N. Mimmo (2015*g*). Active Fault–Tolerant Control of Offshore Wind Farm Installations. In: *Proceedings of the 9th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS’15* (IFAC, Ed.). Vol. 48. IFAC. Paris, France. pp. 1351–1356. DOI: 10.1016/j.ifacol.2015.09.713. ISBN: 978–3–642–27644–6. ISSN: 1474–6670. Special session invited paper.
- Simani, Silvio (2002). Fault diagnosis of a chemical process using identification techniques. In: *CDC’02* (IEEE CSS, Ed.). Vol. 4. 2002, 41st IEEE Conference on Decision and Control. Omnipress. Las Vegas, Nevada, U.S.A.. pp. 4132–4133. DOI: 10.1109/CDC.2002.1185015.
- Simani, Silvio (2003*b*). Book reviews: “Coding Approaches to Fault Tolerance in Combinatorial and Dynamic Systems”. *Automatica* **39**(6), 1113–1115. Coding Approaches to Fault Tolerance in Combinatorial and Dynamic Systems by Christoforos N. Hadjicostis. Kluwer Academic Publisher. ISBN: 0–7923–7624–2.
- Simani, Silvio (2004*d*). Design of Residual Generators for Aircraft Fault Diagnosis. In: *ACD Workshop 2004: Workshop on Advanced Control and Diagnosis*. Vol. 1. Karlsruhe University, Germany. Universität Karlsruhe, Forschungszentrum Umwelt, Adenauerring 20, D–76131 Karlsruhe, Germany. pp. 154–159.
- Simani, Silvio (2004*e*). Fuzzy model identification for the fault diagnosis of a real sugar cane crushing process. In: *IEEE MMAR2004 – Methods and Models in Automation and Robotics* (S. Domek and R. Kaszynski, Eds.). Vol. 2. IEEE, CSS, IEEE Robotics & Automation Society. IEEE CSS. Miedzydroje, Poland. pp. 737–742. (invited session ”Soft Computing Methods in Fault Diagnosis”).
- Simani, Silvio (2005*a*). Chemical System Dynamic Identification with Application to Sensor Fault Detection. In: *IFAC’2005* (P. Horacek, M. Simandl and P. Zitek, Eds.). Vol. 16. 16th IFAC World Congress. IFAC. Prague, Czech Republic. pp. 1–6. ISBN: 008045108X. DOI: 10.3182/20050703–6–CZ–1902.01590.

- Simani, Silvio (2005*b*). Fuzzy Model Identification of a Sugar Cane Crushing Process for Fault Diagnosis Application. In: *44th IEEE Conference on Decision and Control, and the European Control Conference 2005* (IEEE CSS, Ed.). Vol. 2. IEEE CSS. IEEE. Seville, Spain. pp. 2053–2057. DOI: 10.1109/CDC.2005.1582463.
- Simani, Silvio (2005*c*). Identification and Fault Diagnosis of a Simulated Model of an Industrial Gas Turbine. *IEEE Transactions on Industrial Informatics* **1**(3), 202–216. DOI: 10.1109/TII.2005.844425.
- Simani, Silvio (2006). Discussion on “FDI using multiple parity vectors for redundant inertial sensors” by Cheol–Kwan Yang & Duk–Sun Shim. *European Journal of Control* **12**(4), 450–454. Discussion Paper. DOI: 10.1016/S0947–3580(06)70902–5.
- Simani, Silvio (2007*b*). Fault Diagnosis of a Simulated Industrial Gas Turbine via Identification Approach. *International Journal of Adaptive Control and Signal Processing* **21**(4), 326–353. Copyright 2006 John Wiley & Sons, Ltd. ISSN: 0890–6327. DOI: 10.1002/acs.924.
- Simani, Silvio (2021*a*). *Diagnosis and Fault–Tolerant Control 1*. Chap. Data–Driven Methods for Fault Diagnosis, pp. 131–195. Vol. 1. John Wiley & Sons, Ltd. Hoboken, NJ, USA. ISBN: 9781119882329. DOI: 10.1002/9781119882329.ch5.
- Simani, Silvio (2021*b*). *Diagnosis and Fault–Tolerant Control 1*. Chap. Mathematical Modeling and Fault Description, pp. 1–55. Vol. 1. John Wiley & Sons, Ltd. Hoboken, NJ, USA. ISBN: 9781119882329. DOI: 10.1002/9781119882329.ch1.
- Simani, Silvio and Bonfè Bonfe (2006). Discussion on “A comparison of sliding mode and unknown input observers for fault reconstruction” by Christopher Edwards and Chee Pin Tan. *European Journal of Control* **12**(3), 270–274. Discussion Paper. DOI: 10.1016/S0947–3580(06)70475–7.
- Simani, Silvio and Cesare Fantuzzi (2005). Approximation of Non–linear Systems with Identified Hybrid Models. In: *IFAC’2005* (P. Horacek, M. Simandl and P. Zitek, Eds.). Vol. 16. 16th IFAC World Congress. Prague, Czech Republic. pp. 1–6. ISBN: 008045108X. DOI: 10.3182/20050703–6–CZ–1902.00004.
- Simani, Silvio and Cesare Fantuzzi (2006*b*). Dynamic system identification and model–based fault diagnosis of an industrial gas turbine prototype. *Mechatronics* **16**(6), 341–363. Elsevier Publisher. DOI: 10.1016/j.mechatronics.2006.01.002.
- Simani, Silvio and Cihan Turhan (2019). Design and validation of a fault tolerant fuzzy control design for a wind park system. In: *Proceedings of the 15th European Workshop on Advanced Control and Diagnosis – ACD 2019* (G. Conte, Ed.). Lecture Notes in Control and Information Sciences – Proceedings. Alma Mater Studiorum, University of Bologna. Springer. Bologna, Italy. pp. 1–16.

- Simani, Silvio and Marcello Bonfè (2004). Modelling and Identification of Residual Generator Functions for Fault Detection and Isolation of a Small Aircraft. In: *CDC'04* (IEEE CSS, Ed.). Vol. 4. 43rd IEEE Conference on Decision and Control. IEEE CSS. The Atlantis, Paradise Island, The Bahamas. pp. 4324–4329. DOI: 10.1109/CDC.2004.1429431.
- Simani, Silvio and Paolo Castaldi (2014). Active Actuator Fault Tolerant Control of a Wind Turbine Benchmark Model. *International Journal of Robust and Nonlinear Control* **24**(8–9), 1283–1303. John Wiley. DOI: 10.1002/rnc.2993.
- Simani, Silvio and Paolo Castaldi (2021a). *Diagnosis and Fault-Tolerant Control 2*. Chap. Nonlinear Modelling for Fault-Tolerant Control, pp. 143–191. Vol. 2. John Wiley & Sons, Ltd. Hoboken, NJ, USA. ISBN: 9781119882350. DOI: 10.1002/9781119882350.ch5.
- Simani, Silvio and Paolo Castaldi (2021b). *Diagnosis and Fault-Tolerant Control 2*. Chap. Nonlinear Methods for Fault Diagnosis, pp. 1–56. Vol. 2. John Wiley & Sons, Ltd. Hoboken, NJ, USA. ISBN: 9781119882350. DOI: 10.1002/9781119882350.ch1.
- Simani, Silvio and R. J. Patton (2003). Fault diagnosis of non-linear dynamic processes using identified hybrid models. In: *CDC'03* (IEEE CSS, Ed.). Vol. 1. 42nd IEEE Conference on Decision and Control. IEEE CSS. Maui, Hawaii, USA. pp. 445–450. DOI: 10.1109/CDC.2003.1272603.
- Simani, Silvio and Roberto Diversi (2004). Residual Generation Design for Dynamic System Fault Detection. In: *CDC'04* (IEEE CSS, Ed.). Vol. 4. 43rd IEEE Conference on Decision and Control. IEEE CSS. The Atlantis, Paradise Island, The Bahamas. pp. 4311–4315. DOI: 10.1109/CDC.2004.1429429.
- Simani, Silvio and Roberto Diversi (2005). Residual Function Design for Linear Multivariable Systems. In: *IFAC'2005* (P. Horacek, M. Simandl and P. Zitek, Eds.). Vol. 16. 16th IFAC World Congress. Prague, Czech Republic. pp. 1–6. ISBN: 008045108X DOI: 10.3182/20050703-6-CZ-1902.01807.
- Simani, Silvio, Cihan Turhan and Saverio Farsoni (2021c). Design and validation of a fault tolerant fuzzy control for a wind park high-fidelity simulator. In: *2021 5th International Conference on Control and Fault-Tolerant Systems (SysTol)* (IEEE Control Systems Society, Ed.). CRAN – Research Center for Automatic Control. IEEE. Saint Raphael, France. pp. 243–248. ISBN: 978-1-6654-3159-0. ISSN: 2162-1209. DOI: 10.1109/SysTol52990.2021.9595199.
- Simani, Silvio, Marcello Bonfè, Paolo Castaldi and Walter Geri (2004). Residual Generator Function Design for Actuator Fault Detection and Isolation of a Piper PA30 Aircraft. In: *CDC'04* (IEEE CSS, Ed.). Vol. 4. 43rd IEEE Conference on Decision and Control. IEEE CSS. The Atlantis, Paradise Island, The Bahamas. pp. 4336–4341. DOI: 10.1109/CDC.2004.1429433.

- Simani, Silvio, Roberto Diversi and Umberto Soverini (2005). Identification of residual generators for fault detection of linear dynamic models. In: *44th IEEE Conference on Decision and Control, and the European Control Conference 2005* (IEEE CSS, Ed.). Vol. 7. IEEE CSS. IEEE. Seville, Spain. pp. 7651–7655. DOI: 10.1109/CDC.2005.1583397.
- Simani, Silvio, Saverio Farsoni and Paolo Castaldi (2023a). Data-driven design of an active wake steering control for a wind farm benchmark. In: *Intelligent Computing, Lecture Notes in Networks and Systems - SAI* (Kohei Arai, Ed.). Vol. 739. Springer Nature Switzerland. Cham. pp. 53–61.
- Simani, Silvio, Saverio Farsoni and Paolo Castaldi (2023b). Data-driven wake steering control for a simulated wind farm model. *International Journal of Robotics and Automation Technology* **10**, 14–26.
- Simani, Silvio, Saverio Farsoni and Paolo Castaldi (2023c). Supervisory control and data acquisition for fault diagnosis of wind turbines via deep transfer learning. *Energies*.
- Simani, Silvio, Saverio Farsoni and Paolo Castaldi (2023d). Transfer learning for fault detection with application to wind turbine scada data. *Journal of Energy and Power Technology* **5**(1), 1–12.
- Simani, Silvio, Saverio Farsoni and Paolo Castaldi (2024b). Wind turbine data-driven intelligent fault detection. In: *Intelligent Systems and Applications* (Kohei Arai, Ed.). Springer Nature Switzerland. Cham. pp. 50–60.
- Simani, Silvio, Yat Ping Lam, Saverio Farsoni and Paolo Castaldi (2023e). Dynamic neural network architecture design for predicting remaining useful life of dynamic processes. *Journal of Data Science and Intelligent Systems*.
- Tralli, A., N. Tullini, S. Simani and U. Soverini (1999). Identificazione strutturale mediante modellazione indipendente dal danno. In: *XIV AIMETA – ITALIAN ASSOCIATION OF THEORETICAL AND APPLIED MECHANICS* (AIMETA, Ed.). AIMETA. AIMETA. Como, Italy. pp. 10–18. In italian. URL: <http://www.aimeta.it/>.
- Trave-Massuyes, Louise, Cristina Verde and Silvio Simani (2024). Proceedings of the 12th ifac symposium on fault detection, supervision and safety for technical processes – SAFEPROCESS 2024. *IFAC-PapersOnLine* **58**(4), i–vii. 12th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes – SAFEPROCESS 2024.
- Turhan, C., S. Simani, I. Zajic and G. Gokcen Akkurt (2016a). Analysis and Application of Advanced Control Strategies to a Heating Element Nonlinear Model. In: *Proc. of the 13th European Workshop on Advanced Control and Diagnosis – ACD2016* (A. Aitouche, J. Korbicz and V. Cocquempot, Eds.). Vol. 783 of *Journal of Physics: Conf. Series*. Research Center in Computer Science, Signal and

- Automatic Control. IOP Publishing. IOP Conf. Series. Lille, France. pp. 1–12. Invited paper special issue. DOI: 10.1088/1742-6596/783/1/011001.
- Turhan, C., S. Simani, I. Zajic and G. Gokcen Akkurt (2016*b*). Comparative analysis of thermal unit control methods for sustainable housing applications. In: *Proc. of the 12th REHVA World Congress CLIMA 2016*. Vol. 8. REHVA – Federation of European Heating, Ventilation and Air Conditioning Associations. REHVA. Aalborg, Denmark. pp. 1–10.
- Turhan, C., S. Simani, I. Zajic and G. Gokcen Akkurt (2017). Performance Analysis of Data–Driven and Model–Based Control Strategies Applied to a Thermal Unit Model. *Energies* **10**(67), 1–20. Invited paper special issue. ISSN: 1996–1073. DOI: 10.3390/en10010067.
- Turhan, Cihan, Silvio Simani and Gulden Gokcen Akkurt (2021). Development of a personalized thermal comfort driven controller for HVAC systems. *Energy* **237**(C), 121568. DOI: <https://doi.org/10.1016/j.energy.2021.121568>.
- Turhan, Cihan, Silvio Simani, Ivan Zajic and Gulden Gokcen (2015). Application and Comparison of Temperature Control Strategies to a Heating Element Model. In: *Proceedings of the International Conference on Systems Engineering – ICSE 2015*. Control Theory and Applications Centre, Faculty of Engineering and Computing, Coventry University Technology Park. IEEE. Coventry, UK.
- Vahed, S. H., M. Mokhtare, H. A. Nozari, M. A. Shoorehdeli and S. Simani (2010). Fault Detection and Isolation of Tennessee Eastman Process Using Improved RBF Network by Genetic Algorithm. In: *Proceedings of the 8th European Workshop on Advanced Control and Diagnosis – ACD2010* (S. Simani, Ed.). number FrA3.6. Faculty of Engineering, University of Ferrara, Ferrara, Italy. Grafema. 44049 Vigarano Mainarda. Ferrara, Italy. Faculty of Engineering. Via Saragat, 1. 44122 Ferrara (FE), Italy. pp. 362–367. Available on–line at: www.acd2010.it.
- Valenzuela, A., E. Inga and S. Simani (2019). Planning of a resilient underground distribution network using georeferenced data. *Energies* **12**(4), 1–20. DOI: 10.3390/en12040644.
- Valenzuela, A., S. Simani and E. Inga (2021). Automatic Overcurrent Protection Coordination after Distribution Network Reconfiguration Based on Peer-To-Peer Communication. *Energies* **14**(3253), 1–22. ISSN: 2076-3417. DOI: 10.3390/en14113253.
- Venturini, M., L. Manservigi, S. Alvisi and S. Simani (2018). Development of a physics–based model to predict the performance of pumps as turbines. *Applied Energy* **231**(1), 343–354. DOI: 10.1016/j.apenergy.2018.09.054.
- Venturini, M., S. Alvisi and S. Simani (2015). Energy potential of pumps as turbines (PATs) in water distribution networks. In: *Proc. of ECOS2015 – the 28th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems*. Pau, France. pp. 1–12.

- Venturini, M., S. Alvisi, S. Simani and L. Manservigi (2017a). Comparison of different approaches to predict the performance of pumps as turbines (PATs). In: *Proc. of ECOS2017 – the 30th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems*. San Diego State University. <https://ecos2015.sciencesconf.org>. San Diego, California, USA. pp. 1–17. (Invited Paper).
- Venturini, M., S. Alvisi, S. Simani and L. Manservigi (2017b). Development of a physics-based model to predict the performance of pumps as turbines (PATs). In: *Proc. of ECOS2017 – the 30th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems*. San Diego State University. <https://ecos2015.sciencesconf.org>. San Diego, California, USA. pp. 1–16. (Invited Paper).
- Venturini, M., S. Alvisi, S. Simani and L. Manservigi (2017c). Energy Production by Means of Pumps As Turbines in Water Distribution Networks. *Energies* **10**(10), 1–13. DOI: 10.3390/en10101666. Special issue of selected papers from ECOS 2017 – 30th International Conference on Efficiency, Cost, Optimisation, Simulation and Environmental Impact of Energy Systems.
- Witczak, Marcin, Vicenc Puig and Silvio Simani (2023). Computational intelligence-based approaches to fault-tolerant and self-healing control and maintenance of dynamic systems. *Engineering Applications of Artificial Intelligence* **126**, 106879.
- Yepez, H., W. Pavon, S. Simani, E. Ayala and A. B. Asiedu-Asante (2022). Source inverter voltage and frequency control for AC isolated microgrid applications. In: *Proceedings of the 2022 IEEE 7th International Energy Conference (ENERGYCON)*. IEEE. IEEE. Riga, Latvia. pp. 1–6. ISBN: 978-1-6654-7982-0. DOI: 10.1109/ENERGYCON53164.2022.9830410.