LUIGI FORTUNA

CURRICULUM VITAE

Luigi Fortuna was born in Siracuse (ITALY) in 1953. He received the degree of Electrical Engineering (cum laudae) from the University of Catania in 1977. He was researcher in Electronics up to 1987 when he became Associate Professor of Automatic Control. In that a period he was more time visiting researcher at the JET (Joint European Torus) in Abington (UK) where he worked in the design of control apparatus of the JET machine.

Since 1994 he is Full Professor of System Theory. Since 1987 he taught 70 courses at the University of Catania regarding all the topics related to Automation, Operative Research and Bioengineering.

The CV is organized following the guidelines reported in the call (Art. 2).

**Quantity and quality of the scientific production:** according to **SCOPUS** he published 619 documents with 9116 citations, with H-index 54 (August 13-2021) . The full list of SCOPUS indexed publications can be retrieved at: <https://www.scopus.com/authid/detail.uri?authorId=7006124439>

He is co-author of 20 books published by international publishing groups: 500 Years After Leonardo Da Vinci Machines: Towards Innovation And Control (World Scientific 2020), Synchronization in Networks of Nonlinear Circuits: Essential Topics with MATLAB Code (Springer 2018), Control of imperfect nonlinear electromechanical large scale systems: from dynamics to hardware implementation (World Scientific 2017), Nonlinear Circuits Dynamics with MATLAB and Laboratory Experiments (CRC Press 2017), A concise guide to chaotic electronic circuits (Springer 2014),Optimal and Robust Control: Advanced Topics with MATLAB (CRC Press, 2012), Fractional Order Systems. Modeling and Control Applications (World Scientific 2010), From Physics to Control through an Emergent View (World Scientific 2010), Modelling, Estimation and Control of Networked Complex Systems (Springer, 2009), Chua's circuit implementations (World Scientific, 2009), Advanced Topics on Cellular Self-Organizing Nets and Chaotic Nonlinear Dynamics to Model and Control Complex Systems (World Scientific, 2008), Soft Sensors for Monitoring and Control of Industrial Processes (Springer, 2006), Bio-Inspired Emergent Control of Locomotion Systems (World Scientific, 2004), Soft- Computing (Springer 2001), Nonlinear Non Integer Order Circuits and Systems (World Scientific 2001), Advanced Topics in Microelectronics and System Design (Springer 2000), Cellular Neural Networks (Springer 1999), Neural Networks in Multidimensional Domains (Springer 1998), Model Order Reduction in Electrical Engineering (Springer 1994), Robust Control - An Introduction (Springer 1993).

He is co-inventor of 10 industrial patents: WO2018121840A1 Method and system for scheduling resources for streaming video services in mobile communication networks, EP1017044A1 Control device for a focus system of a CD driver using the Fuzzy logic, US2010148164A1 All-organic sensor/actuator system, EP0994598A1 Cryptography method and station for packet switching networks based on digital chaotic models, EP0797165A1 Cellular neural network to obtain the so-called unfolded Chua's circuit, EP1220063A1 Non-integer order dynamic systems, EP0695606A1 Fuzzy control process and device for positioning and quickly damping mechanical oscillations, US2003133362A1 System for detecting distances using chaotic signals, EP0997235A1 Circuit for generating and controlling the movement of an electro-mechanic multi-actuator system, EP0837389A1 Fuzzy logic neural network modular architecture, EP1223718A1 Method of communicating by means of chaotic signals.

**Academic positions held in the last ten years at universities or institutions of high international scientific reputation:** Dean of the Engineering Faculty of the University of Catania (2005-2012, evaluated period 2010-2012), Coordinator of the PhD Course of the Department of Electrical Electronics and Computer Science Engineering (DIEEI) (1996-2016, evaluated period 2010-2016), Coordinator of the Quality Board for the University of Catania (from 01/11/2012 to 31/05/2013), Component of the Quality Board for the University of Catania (from 01/06/2013 to 31/05/2017).

**Experience in the field of university system and quality assessment teaching and research:** He has been in the Evaluation Board of Politecnico di Bari (1999/2000) and of the Evaluation Board of the Università degli Studi di Catania (2000-2006).

Since January 2009 he is Reviewer for the National Science Foundation (USA).

He has been in the national board for PRIN MIUR 2009, Area 09.

**Fluency in English**

**Selected as ASN 2018-2020 Committee member:** Commissione ASN, nominata in esecuzione di provvedimenti giurisdizionali (Decreto Dipartimentale n. 1434 del 18 luglio 2019, (ruolo Presidente).

**Scientific responsibility for international and national research projects, admitted to financing on the basis of competitive calls:** He was the coordinator of the project FIRB RBNE01CW3M “Cellular Self-organizing nets and chaotic nonlinear dynamics to model and control complex systems” (2002-2005), He was scientific coordinator of the project PRIN 2003 and 2005. He was scientific responsible of a Research Unit in projects PRIN 1994, 1995 and 1996. He was responsible for the University of Catania of two EU projects: Clawar (Climbing and Walking Robots) and DICTAM (Dynamic Image Computing using Tera- Speed Analogic Visual Microprocessors). He was the scientific responsible for several bilateral projects: bilateral project Italy-Hungary in the framework of the “XVII executive programme of scientific and technological co-operation between Italy and Hungary for the years 2008-2010”; bilateral project Italy-Poland in the framework of the “XIX executive programme of scientific and technological co-operation between Italy and Poland for the years 2007-2009”; bilateral VIGONI project Italy-Germany 2009-2010. He was in charge for project of MURST with University of San Diego California for an educational program including Graduate and Undergraduate students.

**Direction or participation in editorial committees of magazines, editorial series, highly prestigious encyclopedias:** He is Member of the Editorial Board of Int. Journal of Complex Phenomena in Nonlinear Systems, and Int. J. of Bifurcations and Chaos. Editor in Chief of the Springer Book Subseries on Nonlinear Electronic Circuits (permanent). Editor in Chief of the WS Book Series on Complexity in Engineering (permanent). He served as Associate Editor the IEEE Trans. CAS for the period from July 1997 to June 1999.

**Other funded projects:** He was responsible of two projects supported by Italian Spatial Agency: one on the Mars Mission and the other one on Multifunctional Modular Robotic Platforms. He had a contract with Joint Europeam Torus (EURATOM) (Abington-UK) for the period 1/1/98-31/12/98 for the use of Intelligent Techniques in Fault Pulse Validation. He is now responsible of a project in collaboration with ENEA (Frascati) in the area of Plasma Control. He has been coordinator of the PON project "Ambition Power - Formazione". Actually is in Charge until 2023 of the EU project Eurofusion for the University of Catania.

**Other CV items:** He was the Scientific Coordinator of the Master in Microelectronics and Microsystems organized by the Istituto Superiore di Catania per la Formazione di Eccellenza (A.Y. 1999-2000, 2000-2001). He was in the Executive Board of the Scuola Superiore di Catania (2001-2005). He was the coordinator of the Master courses in Electronic Engineering (1997-2003). From 2002 to 2005 he was in charge as Chair of the Department of Electrical Electronics and System Engineering. He is Fellow of the IEEE. He was IEEE CAS Chairman of the CNN Technical Committee, IEEE CAS Distinguishing Lectures 2001-2002, IEEE Chairman of the IEEE CAS Chapter Central- South ITALY. He was the chairman of CNNA2000, NDES2000 conferences and the 10th Experimental Chaos Conference. He is now the chairman of the “Physics and Control Conference” (PhysCon 2009), IEEE Compeng (2016), Honorary Chairman IEEE ECCTD 2017, Co-chair NDES 2018.

Il sottoscritto Fortuna Luigi nato a Siracusa il 27/05/1953, residente in Siracusa (SR), Viale Teracati 49, 96100, consapevole che le dichiarazioni mendaci sono punite ai sensi del codice penale e delle leggi speciali in materia,

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ai sensi del D.P.R. 28/12/2000, n. 445 e sotto la propria responsabilità il proprio Curriculum Vitae et Studiorum.

Il sottoscritto esprime il proprio consenso affinché i dati personali forniti possano essere trattati, nel rispetto del d.lgs. 30.6.2003, n. 196, e successive modifiche ed integrazioni, per gli adempimenti connessi alla selezione di cui al D.D. n.771 del 29 febbraio 2012.

Catania 17/12/2020

Il dichiarante

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