PERSONAL INFORMATION

Name Ferrari, Riccardo https://orcid.org/0000-0003-3615-5445

Birth date 21/11/1979

Nationality Italian

Web site http://www.dcsc.tudelft.nl/~riccardoferrar

EDUCATION

2005 - 09 **PhD in Information Engineering**, Final thesis on "Distributed Fault Detection and Isolation of Large-scale Nonlinear Systems: an Adaptive Approximation Approach". Supervisors: Prof. Thomas Parisini, Prof. Marios M. Polycarpou
UNIV. OF TRIESTE, ITALY.

2000 - 05 **BA in Classical Piano**, Grade 109/110. Final thesis on "The Pianistic Touch: the Musician and the Physicist Point of View and a Computer Model"
"G. TARTINI" CONSERVATORY OF MUSIC OF TRIESTE, ITALY.

1998 - 2004 **MSc in Electronic Engineering**, Grade 110/110 cum laude and honours. Final thesis on "The Acoustoelastic Effect in Pre-Stressed Metal Sheets: theoretical study, experimental detection and computer modelling with the Cell Method"
UNIV. OF TRIESTE, ITALY.

CURRENT POSITION

2017 - **Tenure Track Assistant Professor**
DELFT CENTER FOR SYSTEMS AND CONTROL/3ME/TU DELFT, THE NETHERLANDS.

PREVIOUS POSITIONS

2015 - 17 **Postdoctoral Researcher**
DELFT CENTER FOR SYSTEMS AND CONTROL/3ME/TU DELFT, THE NETHERLANDS.

2013 - 15 **R&D Executive Manager**
DANIELI AUTOMATION, ITALY.

2008 - 13 **Junior R&D Engineer**
DANIELI AUTOMATION, ITALY.

FELLOWSHIPS AND AWARDS

2021 **Best Paper Award**, Finalist
ASME ENERGY SYSTEMS TECHNICAL COMMITTEE, ACC 2021.

2020 **Aerospace Industrial Benchmark on Fault Detection**, First Prize
AIRBUS, IFAC WORLD CONGRESS 2020.

2018 **Paul M. Frank Award**, Honourable mention
IFAC, SAFEPROCESS 2018.

2016 - 18 **Marie Skłowdowska-Curie Individual Fellowship**, SURE: Safe Unmanned Robotic Ensembles
EUROPEAN COMMISSION, GRANT NO. 707546.

2011 **Competition on Fault Detection and Fault Tolerant Control for Wind Turbines**, Second place
THE MATHWORKS AND K.K. ELECTRONICS, IFAC WORLD CONGRESS 2011.

2005 **Giacomini Award**, Awarded to best Italian MSc thesis in Acoustics
ITALIAN ACOUSTICS ASSOCIATION.

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

2017 - **2 Postdoctoral Fellows, 7 PhD students, 26 MSc students**, Postdocs: Dr. Yichao Liu, Dr. Alexander Gallo; PhDs: Dr. Joeri Frederik - graduated 2021, Twan Keijzer, Jean Gonzales Silva, Zhixin Feng, Atindriyo Kusumo Pamososuryo, Tushar Desai, Mahmood Mirzakhalili
DELFT CENTER FOR SYSTEMS AND CONTROL/3ME/TU DELFT, NETHERLANDS.

2008 - 15 **1 PhD student, 6 MSc students**, PhD: Dr. Francesca Boem - graduated in 2013
DANIELI AUTOMATION AND UNIV. OF TRIESTE, ITALY.

TEACHING ACTIVITIES

2017 - **Lecturer (MSc)**, "Control Systems Laboratory" and "Fault Diagnosis and Fault Tolerant Control"
DELFT CENTER FOR SYSTEMS AND CONTROL/3ME/TU DELFT, NETHERLANDS.

2005 - 06 **Teaching Assistant (MSc)**, "Process Control and Digital Control Laboratory" and "System Identification Laboratory"
UNIV. OF TRIESTE, ITALY.

ORGANIZATION OF SCIENTIFIC MEETINGS

2021 **European Control Conference**, Organization of Invited Session on Security and Resiliency for Cyber-Physical Systems
IEEE, IFAC, ROTTERDAM (THE NETHERLANDS), JUNE 29-JULY 2 2020.

2019 **15th IFAC Symposium on Large Scale Complex Systems**, National Organizing Committee
IFAC, DELFT, MAY 26-28 2019.

2018 **SafeProcess**, Organization of Invited Session on Safety and Privacy of Cyber Physical Systems
IFAC, WARSAW, AUGUST 29-31 2018.

2018 **European Control Conference**, Organization of Invited Session on Safety, Security and Privacy of Cyber Physical Systems
IEEE, IFAC, LIMASSOL (CYPRUS), AUGUST 29-31 2018.

INSTITUTIONAL RESPONSIBILITIES

2020 - **Member**, Faculty-wide Commission on Exams and Regulations
DELFT CENTER FOR SYSTEMS AND CONTROL/3ME/TU DELFT, THE NETHERLANDS.

2019 **Expert**, serving as reviewer for MSCA grant applications
EUROPEAN COMMISSION, BRUXELLES, BELGIUM.

2018 - 19 **Expert**, serving as reviewer for grant applications
VLAANDEREN AGENTSCHAP INNOVEREN & ONDERNEMEN, BRUXELLES, BELGIUM.

EDITORIAL ACTIVITIES

2021 - **Moderator**, Electrical Engineering and Systems Science - Mathematics
ARXIV.

2018 - **Associate Editor**, Conference Editorial Board
IEEE CONTROL SYSTEMS SOCIETY (CSS).

2015 - **Associate Editor**, Conference Editorial Board
EUROPEAN CONTROL ASSOCIATION (EUCA).

2005 - **Reviewer**, IEEE Trans. on Automatic Control, Automatica, Int. J. of Control, IEEE Trans. on Neural Networks and Learning Systems, IEEE Trans. on Signal Processing; Conf. on Decision and Control, American Control Conf., European Control Conf.
IEEE AND IFAC.

MEMBERSHIP OF SCIENTIFIC SOCIETIES

2015 - **Member**, Technical Committee 6.2 on Mining, Mineral and Metal Processing; Technical Committee 6.4 on Fault Detection, Supervision & Safety of Technical Processes
IFAC.

MAJOR COLLABORATIONS

Academic, Prof. Thomas Parisini – Fault diagnosis, IMPERIAL COLLEGE LONDON; Prof. Marios Polycarpou – Fault Diagnosis, UNIV. OF CYPRUS; Prof. Nick Hawes – Active Inference, UNIV. OF OXFORD; Prof. Jerome Le Ny – Differential Privacy, UNIV. POL. MONTREAL; Prof. J.M. Maestre – Coalitional Control, UNIV. OF SEVILLE; Dr. A.H. Teixeira – Cyber-attack detection, UPPSALA UNIV.; Dr. Ping Wu – Data-driven fault tolerant control, ZHEJIANG SCI-TECH UNIV.

Industrial, Dr. Fabian Jarmolowitz – Cooperative Self Driving Vehicles, BOSCH RESEARCH; Dr. Kausihan Selvam – Electric Powertrains, VOLVO .

CAREER BREAKS

2009 - 15 **Industrial Researcher**, worked as R&D designer and executive manager in the private sector. Scientific production was limited to own initiative
DANIELI AUTOMATION, ITALY.

Appendix: Past, ongoing and submitted grants and funding of the staff member

Previous grants

Title	*Funding Source*	*Amount (own)*	*Period*	*Role*	*Description*
D3P	3mE, Cohesion grant	60 k€	10/2018 - 9/2019	Co-PI	The goal was to investigate diagnosis and prognosis of structural damages in offshore structures.
SURE	EU, MSCA	177 k€	9/2016 - 9/2018	PI	The goal was to derive distributed fault diagnosis methods for cooperative autonomous robotic vehicles.

On-going Grants

Title	*Funding Source*	*Amount (own)*	*Period*	*Role*	*Description*
SPARSITY	Volvo AB (private) – NWO (public)	600 k€	1/2021 - 12/2024	PI	The goal is to use sparse data for implementing predictive maintenance of electric heavy vehicles.
AIMWIND	Research Council of Norway	1.55 M€ (328 k€)	1/2021 - 12/2023	Co-PI	AIMWind will equip wind turbines with new technologies that assess wear and ageing, and adapt wind farms operations to bring holistic improvements to their longevity and profitability during their design life and beyond.
WATEREYE	EU, H2020	4.7 M€ (590 k€)	11/2019 - 10/2022	Co-PI	The goal is to implement fault tolerant control for offshore wind farms subjected to corrosion degradation.
EDOWE	EU, MSCA	176 k€	10/2019 - 9/2021	Host	I am the host supervising the fellowship grantee, Dr. Yichao Liu. The goal is to apply advanced control methods to offshore wind turbines and decrease their cost of energy.

Grant applications

Title	*Funding Source*	*Amount (own)*	*Period*	*Role*	*Description*
SATISFY	Horizon Europe, ERC Consolidator	2 M€	2021	PI	The goal is to derive a scalable and efficient algebraic method for uncertainty propagation in nonlinear dynamical systems. Applications include probabilistically robust fault diagnosis and control methods for systems required to have a high degree of autonomy.