PERSONAL INFORMATION	Stefano Panzieri
	Università ROMA TRE, via della Vasca Navale, 79, Roma, 00146
	329 0552315 – 06 5733 3376
	panzieri@uniroma3.it
	Sex Male | Date of birth 17/12/1963 | Nationality Italian
CURRENT POSITION SSD (if applicable)	Full professor ING-INF/04 Automatica
RESEARCH TOPICS / EXPERIENCES	▪ Critical Infrastructures ▪ Robotics ▪ Networked Systems ▪ Smart Building ▪ Energy management

SCIENTIFIC / TECHNICAL QUALIFICATION *(source: Scopus)*	▪ H-index:	▪ 22
	▪ No. publications:	▪ 148
	▪ No. citations:	▪ 1633
THEMATIC AREA KEYWORDS *(it is possibile to select one or more than one thematic area)*	▪ Energy transition:	▪ Smart Buildings, Smart Cities, Active Demand, Energy Management, IoT
	▪ Digital transition:	▪ Cyber Security for Industrial/Building automation
	▪ Bio-pharma & health:	▪ -

EDUCATION AND TRAINING

1994/08/29	PhD System Engineering
1989/12/14	Laurea degree in Electronic Engineering

WORK EXPERIENCE

since 2019	Full Professor Automatic Control
	University ROMA TRE
2003-2019	Associate Professor
	University ROMA TRE
1996-2003	Assistant Professor
	University ROMA TRE

MAIN ROLES AND RESPONSIBILITIES

Since 2019	Director of Master second level “La cybersecurity per la protezione dei sistemi di controllo nell’industria 4.0 e nelle infrastrutture critiche”
since 2018	Rector’s delegate for Digital Technological Transfer
From 2008 To 2020	Coordination of Ph.D. programme in Computer Science and Automation
From 2015 To 2019	Vice-president of “Comitato Unico di Garanzia” of ROMA TRE (2015-2019)
Since 2012	Director of MCIPlab, Models for Critical Infrastructure Protection laboratory
2010	Member of the Working group on Critical Infrastructures of Prime Minister Council
2013	Member of the Working group on Cyber Security National Strategies of Prime Minister Council.

SERVICE TO NATIONAL AND INTERNATIONAL COMMUNITY

From 1090 To 1991	Officer in the Italian Airforce

TEACHING EXPERIENCE

since 1996	Fundamentals of Automatic Control (Bachelor course of Mechanical Engineering, Electronic Engineering, Computer Science Engineering)
since 2005	Automatic Control (Master degree in Mechanical Engineering, Aeronautics Engineering)
Since 2012	Distributed Control for Large Infrastructures (Master degree in Management and Automation Engineering)
From 2001 To 2017	Industrial Automation Control Systems – SCADA (Bachelor course of Automation and Computer Science Engineering)

MAIN RESEARCH EXPERIENCE

2015	**SMART ENVIRONMENTS** – Valorizzazione della ricerca e crescita del territorio negli ambienti intelligenti. Finanziato dalla Regione Lazio - AVVISO PUBBLICO RELATIVO A PROGETTI DI RICERCA PRESENTATI DA UNIVERSITÀ E CENTRI DI RICERCA – LR 13/2008 – **PROJECT COORDINATION** – Grant 1500 KEuro
2014	**URANIUM** – Unified Risk Assessment Negotiation via Interoperability Using Multi-sensor data European Commission – DGJFS Prevention Preparedness and Consequence Management of Terrorism and other Security related Risks CIPS Grant Action 2013. **PROJECT COORDINATION** – Grant 450 K Euro

2017	**ATENA**- Advanced tools to assess and mitigate the criticality of ICT components and their dependencies over Critical Infrastructures - Horizon 2020 – Secure Societies – DS-3-2015 – The role of ICT in Critical Infrastructures Protection. **SCIENTIFIC COORDINATION. 8000 K Euro.**
2012	**CockpitCI** - Cybersecurity on SCADA: risk prediction, analysis and reaction tools for Critical Infrastructure. FP7-SEC-2011.2.5-1 Cyber attacks against critical infrastructures – Capability Project **SCIENTIFIC COORDINATION.** 6000 K Euro.
2008	**MICIE** - Tool for systemic risk analysis and secure mediation of data exchanged across linked CI information infrastructures. FP7-ICT-SEC-2007.1.7 **SCIENTIFIC COORDINATION.** 6000 K Euro.
2019	**RESISTO** - RESIlience enhancement and risk control platform for communication infraSTructure Operators. European Commission. Horizon 2020 – Secure Societies – DS-3-2015 – The role of ICT in Critical Infrastructures Protection. **INNOVATION MANAGER.** 8000 K Euro.
2012	**FACIES** - online identification of Failure and Attack on interdependent Critical Infrastructures. Prevention Preparedness and Consequence Management of Terrorism and other Security related Risks CIPS Grant Action 2011. **LOCAL COORDINATOR.** 200 K Euro.

MAIN AREA OF RESEARCH

The mathematical frameworks and techniques that I have applied include Iterative Learning Control, Nonlinear control, Fuzzy Logic, Bayesian Estimation, Kalman Filtering, Particle Filters, Non-holonomic systems, Dempster-Shafer Theory, Genetic Algorithms, Neural Networks, Complex Networks analysis, Distributed Estimation, MPC. In particular, the following areas I have many published results.

Flexible Robots	In the area of robots with elastic elements I have published several paper about control with nonlinear techniques, iterative learning control (ILC) and cyclic control, in particular showing the feasibility of ILC for such systems with instable zero-dynamics. Some papers have been dedicated to the problem of repositioning showing the existence of iterative algorithms with low complexity. Many experiments have been conducted on the FLEXARM, a two link flexible arm that I have contributed to design and build.
Mobile Robotics	In this field I worked on many problems, ranging from iterative trajectory learning to path planning, from map building to localization problems also in multi-robot environments. Many results have been published using several different techniques. Some remarkable contributions are in the field of simultaneous localization and mapping. I have put some attention into the problem of navigation in structured and unstructured environments with a special interest for the problem of sensor based navigation and sensor fusion. Many techniques derived from Fuzzy Logic, Bayesian Estimation (Kalman Filtering) and Dempster-Shafer theory have been developed and applied to the problem of mapping building and vision based localisation.

Sensor Networks	In this area I have published several works on the problem of localization using innovative algorithms and extending some previous results. The techniques that have been used range from interlaced Kalman filtering to interagent particle filters, and some new results have been found using shadow edges.
Complex Networks	I have been interested in Complex Networks for modelling purposes and I have researched many application also to the path planning problem. An important result has bee found with the application of complex networks theory into evolutionary computation showing the particular performances of genetic algorism over structured spaces. Many applications have been found in the mobile robot localization problem.
Smart Buildings, Smart Grids	In this field I have studied energy problems and found many results regarding fault detection and anomaly detection. Some work has been done using Model Predictive Control applied with a distributed/decentralized philosophy to the temperature control problem for a set of communicating rooms.
Critical Infrastructures Protections	I have been among the fist to work in this sector involving modelling and control problems. I have published several papers on main conferences and Journals in the field and I have contributed to the developing of a simulation model, the CISIApro approach, able to evaluate cascading effects in a network of infrastructures.

ADDITIONAL INFORMATION

Publications

List of Journal Papers

1. Masucci D, Foglietta C, Panzieri S, Pizzuti S. Enhancing the smart building supervisory system effectiveness. Intelligent Build Int 2021.

2. Faramondi L, Oliva G, Panzieri S, Pascucci F, Schlueter M, Munetomo M, Setola R. Network structural vulnerability: A multiobjective attacker perspective. IEEE Trans Syst Man Cybern Syst 2019;49(10):2036-49.

3. Oliva G, Panzieri S, Setola R, Gasparri A. Gossip algorithm for multi-agent systems via random walk. Syst Control Lett 2019;128:34-40.

4. Foglietta C, Masucci D, Palazzo C, Santini R, Panzieri S, Rosa L, Cruz T, Lev L. From detecting cyber-attacks to mitigating risk within a hybrid environment. IEEE Syst J 2019;13(1):424-35.

5. Corbò G, Foglietta C, Palazzo C, Panzieri S. Smart behavioural filter for industrial internet of things: A security extension for PLC. Mobile Networks Appl 2018;23(4):809-16.

6. Adamsky F, Aubigny M, Battisti F, Carli M, Cimorelli F, Cruz T, Di Giorgio A, Foglietta C, Galli A, Giuseppi A, Liberati F, Neri A, Panzieri S, Pascucci F, Proenca

J, Pucci P, Rosa L, Soua R. Integrated protection of industrial control systems from cyber-attacks: The ATENA approach. Int J Crit Infrastruct Prot 2018;21:72-82.

7. Faramondi L, Setola R, Panzieri S, Pascucci F, Oliva G. Finding critical nodes in infrastructure networks. Int J Crit Infrastruct Prot 2018;20:3-15.

8. Miciolino EE, Setola R, Bernieri G, Panzieri S, Pascucci F, Polycarpou MM. Fault diagnosis and network anomaly detection in water infrastructures. IEEE Des Test 2017;34(4):44-51.

9. Oliva G, Setola R, Panzieri S. Critical clusters in interdependent economic sectors: A data-driven spectral clustering analysis. Eur Phys J : Spec Top 2016;225(10):1929-44.

10. Oliva G, Setola R, Panzieri S, Pascucci F. Localization of networks with presence and distance constraints based on 1-hop and 2-hop mass–spring optimization. ICT Express 2016;2(1):19-22.

11. Oliva G, Panzieri S, Pascucci F, Setola R. Sensor networks localization: Extending trilateration via shadow edges. IEEE Trans Autom Control 2015;60(10):2752-5.

12. Moretti F, Pizzuti S, Panzieri S, Annunziato M. Urban traffic flow forecasting through statistical and neural network bagging ensemble hybrid modeling. Neurocomputing 2015;167:3-7.

13. Foglietta C, Panzieri S, Pascucci F. Algorithms and tools for risk/impact evaluation in critical infrastructures. Stud Comput Intell 2015;565:227-38.

14. Carli M, Panzieri S, Pascucci F. A joint routing and localization algorithm for emergency scenario. Ad Hoc Netw 2014;13(PART A):19-33.

15. Oliva G, Panzieri S, Setola R. An amendment to distributed synchronization under uncertainty: A fuzzy approach. Fuzzy Sets Syst 2014;235:104-6.

16. Di Pietro A, Panzieri S. Taxonomy of SCADA systems security testbeds. Int J Crit Infrastruct 2014;10(3-4):288-306.

17. Santini R, Foglietta C, Panzieri S. Evidence theory for cyber-physical systems. IFIP Advances in Information and Communication Technology 2014;441:95-109.

18. Oliva G, Panzieri S, Setola R. Discrete-time linear systems with fuzzy dynamics. J Intelligent Fuzzy Syst 2014;27(3):1129-41.

19. Oliva G, Panzieri S, Priolo A, Ulivi G. Characterising failures and attacks in average consensus. Intern J Syst Control Comm 2014;6(1):1-19.

20. Panzieri S, Pascucci F, Sciavicco L, Setola R. Distributed cooperative localization. J Inf Technol Res 2013;6(3):49-67.

21. Digioia G, Panzieri S. Homeland situation awareness through mining and fusing heterogeneous information from intelligence databases and field sensors. Int J Syst Syst Eng 2013;4(3-4):190-210.

22. Foglietta C, Panzieri S, Macone D, Liberati F, Simeoni A. Detection and impact of cyber attacks in a critical infrastructures scenario: The CockpitCI approach. Int J Syst Syst Eng 2013;4(3-4):211-21.

23. Oliva G, Panzieri S, Setola R. Distributed consensus under ambiguous information. Int J Syst Syst Eng 2013;4(1):55-78.

24. Digioia G, Foglietta C, Oliva G, Panzieri S. Aware online interdependency modelling via evidence theory. Int J Crit Infrastruct 2013;9(1-2):74-92.

25. Oliva G, Panzieri S, Setola R. Distributed synchronization under uncertainty: A fuzzy approach. Fuzzy Sets Syst 2012;206:103-20.

26. Gasparri A, Fiorini F, Di Rocco M, Panzieri S. A networked transferable belief model approach for distributed data aggregation. IEEE Trans Syst Man Cybern Part B Cybern 2012;42(2):391-405.

27. Oliva G, Panzieri S, Setola R. Fuzzy dynamic input-output inoperability model. Int J Crit Infrastruct Prot 2011;4(3-4):165-75.

28. Oliva G, Panzieri S, Setola R. Agent-based input-output interdependency model. Int J Crit Infrastruct Prot 2010;3(2):76-82.

29. Gasparri A, Panzieri S, Priolo A. A fitness-sharing based genetic algorithm for collaborative multi-robot localization. Intelligent Serv Rob 2010;3(3):137-49.

30. Gasparri A, Panzieri S, Pascucci F, Ulivi G. An interlaced extended kalman filter for sensor networks localisation. Int J Sens Netw 2009;5(3):164-72.

31. De Porcellinis S, Panzieri S, Setola R. Modelling critical infrastructure via a mixed holistic reductionistic approach. Int J Crit Infrastruct 2009;5(1-2):86-99.

32. Gasparri A, Panzieri S, Pascucci F. A spatially structured genetic algorithm for multi-robot localization. Intelligent Serv Rob 2009;2(1):31-40.

33. Panzieri S, Pascucci F, Setola R. Simultaneous localisation and mapping of a mobile robot via interlaced extended kalman filter. Int J Model Ident Control 2008;4(1):68-78.

34. Panzieri S, Setola R. Failures propagation in critical interdependent infrastructures. Int J Model Ident Control 2008;3(1):69-78.

35. De Porcellinis S, Setola R, Panzieri S, Ulivi G. Simulation of heterogeneous and interdependent critical infrastructures. Int J Crit Infrastruct 2008;4(1-2):110-28.

36. Gasparri A, Panzieri S, Pascucci F, Ulivi G. Monte carlo filter in mobile robotics localization: A clustered evolutionary point of view. J Intell Rob Syst Theor Appl 2006;47(2):155-74.

37. Panzieri S, Pascucci F, Ulivi G. An outdoor navigation system using GPS and inertial platform. IEEE ASME Trans Mechatron 2002;7(2):134-42.

38. Oriolo G, Panzieri S, Ulivi G. Learning optimal trajectories for non-holonomic systems. Int J Control 2000;73(10):980-91.

39. Oriolo G, Panzieri S, Ulivi G. An iterative learning controller for nonholonomic mobile robots. Int J Rob Res 1998;17(9):954-70.

40. Lucibello P, Panzieri S. Application of cyclic control to a two-link flexible arm. Automatica 1998;34(8):1025-9.

41. Lucibello P, Panzieri S. Cyclic control of linear systems with application to a flexible arm. IEE Proc Control Theory Appl 1998;145(1):19-24.

42. Lucibello P, Panzieri S. Cyclic control of robot arms. Kybernetika 1997;33(1):87-102.

43. Lucibello P, Panzieri S. Experiments on output tracking with internal stability by learning for a one-link flexible arm. Automatica 1997;33(11):2065-9.

44. Lucibello P, Panzieri S, Ulivi G. Repositioning control of a two-link flexible arm by learning. Automatica 1997;33(4):579-90.

45. De Luca A, Panzieri S. End-effector regulation of robots with elastic elements by an iterative scheme. Int J Adapt Control Signal Process 1996;10(4-5):379-93.

46. De Luca A, Panzieri S. An iterative scheme for learning gravity compensation in flexible robot arms. Automatica 1994;30(6):993-1002.

47. Luca AD, Panzieri S. Learning gravity compensation in robots: Rigid arms, elastic joints, flexible links. Int J Adapt Control Signal Process 1993;7(5):417-33.

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According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CVAccording to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.