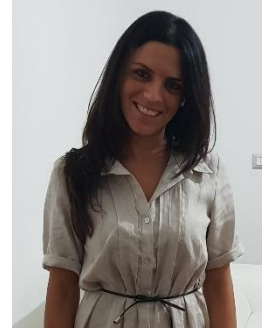


# Curriculum vitae

**Tatiana Martelli**

January 2019



## Personal Information

*First name, Surname:* **Tatiana Martelli**

*Date of birth:* 18.12.1985

*Nationality:* Italian

*E-mail:* [tatiana.martelli@uniroma1.it](mailto:tatiana.martelli@uniroma1.it)

*Web site:* <http://infocom.uniroma1.it/rrsn/wiki/Main/TatianaMartelli>

## Current Position

March 2016 → ON

**PostDoctoral Researcher**

Dept. of Information Engineering, Electronics and Telecommunications (DIET)  
Sapienza University of Rome, Italy

The main research interests include passive radar systems. In particular, the activity focuses on the design of signal processing techniques and methodologies for the detection, localization and imaging of targets (such as aircrafts, vessels, people and drones).

She is involved in research projects funded by the European Union and Leonardo S.p.A.

## Education

November 2012 →  
October 2015

**Ph.D. in remote sensing**

DIET Dept.  
Sapienza University of Rome, Italy

*Thesis: Advanced signal processing techniques for WiFi-based Passive Radar for short range surveillance*

Advisor: Prof. Fabiola Colone

Part of the activity has been carried out within the Project SOS - "Sensors system for detection and tracking Of dangerous materials in order to increase the airport Security in the indoor landside area" - funded by the European Union.

March 2010 →  
October 2012

**Master Degree, Communications Engineering**

Sapienza University of Rome, Italy

Thesis: *Tracking and data fusion algorithms in a Multistatic FM-based Passive Radar*

Advisor: Prof. Fabiola Colone

Final grade: 110 cum laude /110

September 2004 →  
December 2009

**Bachelor Degree, Telecommunications Engineering**

Sapienza University of Rome, Italy

Thesis: *Performance comparison among different configurations of a multi-channel receiver in a polarimetric FM-based Passive Radar*

Advisor: Prof. Fabiola Colone

Final grade: 106 /110

**Publications**

**Journal Papers**

1. F. Pignol, F. Colone and T. Martelli, "Lagrange polynomial interpolation based Keystone Transform for passive radar," in *IEEE Transactions on Aerospace and Electronic Systems*, vol. 54, no. 3, pp. 1151-1167, June 2018.
2. F. Colone, T. Martelli and P. Lombardo, "Quasi-Monostatic Versus Near Forward Scatter Geometry in WiFi-Based Passive Radar Sensors," in *IEEE Sensors Journal*, vol. 17, no. 15, pp. 4757-4772, Aug.1, 1 2017.
3. F. Colone, T. Martelli, C. Bongioanni, D. Pastina and P. Lombardo, "WiFi-based PCL for monitoring private airfields," in *IEEE Aerospace and Electronic Systems Magazine*, vol. 32, no. 2, pp. 22-29, February 2017.
4. T. Martelli, F. Colone, E. Tilli and A. Di Lallo, "Multi-frequency target detection techniques for DVB-T based passive radar sensors", in *Sensors-Open Access Journal MDPI*, September 2016.
5. F. Colone, C. Palmarini, T. Martelli, and E. Tilli, "Sliding Extensive Cancellation Algorithm for disturbance removal in passive radar," *IEEE Transactions on Aerospace and Electronic Systems*, June 2016.
6. D. Pastina, F. Colone, T. Martelli, and P. Falcone, "Parasitic exploitation of WiFi signals for indoor radar surveillance", *IEEE Transaction on Vehicular Technology*, vol.64, no.4, pp.1401,1415, April 2015.

**Conference Proceedings**

1. T. Martelli, F. Colone and R. Cardinali, "Detection performance assessment of the FM-based AULOS® Passive Radar for air surveillance applications", *International Radar Symposium (IRS) 2018*, Bonn, Germany, June 2018, pp. 1-10.
2. F. Filippini, T. Martelli, F. Colone and R. Cardinali, "Target DoA estimation in Passive Radar using nonuniform linear arrays and multiple frequency channels", in *IEEE Radar Conference (RadarConf) 2018*, Oklahoma City, OK, USA, April 2018, pp. 1290-1295.

3. T. Martelli, F. Filippini, F. Pignol, F. Colone and R. Cardinali, "Computationally effective range migration compensation in PCL systems for maritime surveillance", in *IEEE Radar Conference (RadarConf) 2018*, Oklahoma City, OK, USA, April 2018, pp. 1406-1411.
4. T. Martelli, F. Colone and R. Cardinali, "Eco-friendly dual-band AULOS® Passive Radar for air and maritime surveillance applications", in *IEEE International Conference on Environmental Engineering*, Milan, Italy, March 2018, pp. 1-6.
5. T. Martelli, F. Murgia, F. Colone, C. Bongioanni, P. Lombardo "Detection and 3D localization of ultralight aircrafts and drones with a WiFi-based Passive Radar", in *International Conference on Radar Systems RADAR 2017*, Belfast, UK, October 2017, pp. 1-6.
6. A. Losito, M. Stentella, T. Martelli, F. Colone, "Automatic vehicles classification approaches for WiFi-based Passive Forward Scatter Radar", in *International Conference on Radar Systems RADAR 2017*, Belfast, UK, October 2017, pp. 1-6.
7. M. Stentella, A. Losito, T. Martelli, F. Colone, "Stand-alone WiFi-based Passive Forward Scatter Radar sensor for vehicles classification", in *International Conference on Radar Systems RADAR 2017*, Belfast, UK, October 2017, pp. 1-6.
8. T. Martelli, F. Colone, E. Tili and A. Di Lallo, "Maritime surveillance via multi-frequency DVB-T based passive radar," *IEEE Radar Conference (RadarConf) 2017*, Seattle, WA, May 2017, pp. 0540-0545.
9. T. Martelli, F. Colone, C. Bongioanni, D. Pastina, and P. Lombardo, "Short-range passive radar for small private airports surveillance", *European Radar Conference (EURAD) 2016*, London, UK, October 2016, pp. 165-168.
10. T. Martelli, C. Bongioanni, F. Colone, P. Lombardo, L. Testa, and A. Meta, "Security enhancement in small private airports through active and passive sensors," *International Radar Symposium (IRS) 2016*, Krakow, Poland, May 2016, pp. 1-5.
11. T. Martelli, F. Colone, P. Lombardo, "First experimental results for a WiFi-based passive forward scatter radar," *IEEE Radar Conference (RadarCon) 2016, May 2016*, pp. 1-6.
12. C. Palmardini, T. Martelli, F. Colone, and P. Lombardo, "Disturbance removal in passive radar via Sliding Extensive Cancellation Algorithm (ECA-S)," *South African Radar Conference 2015*, Johannesburg, South Africa, October 2015, pp. 162-167.
13. T. Martelli, D. Pastina, F. Colone, and P. Lombardo, "Enhanced WiFi-based passive ISAR for indoor and outdoor surveillance," *IEEE Radar Conference (RadarCon) 2015*, Washington, USA, May 2015, pp. 0974-0979.
14. C. Bongioanni, F. Colone, T. Martelli, R. D'Angeli, and P. Lombardo, "Exploiting polarimetric diversity to mitigate the effect of interferences in FM-based passive radar," *International Radar Symposium (IRS) 2010*, Vilnius, June 2010, pp. 1-4.

### **National & International Workshop**

1. F. Filippini, T. Martelli, F. Colone and R. Cardinali, "DVB-T based passive coherent location systems: Recent advances and current challenges, " *GTTI Radar and Remote Sensing Workshop*, Pavia, Italy, May 2018.
2. T. Martelli, A. Losito, M. Stentella, F. Colone, P. Lombardo, "Recent results for WiFi-based passive radar in short range surveillance applications," *GTTI Radar and Remote Sensing Workshop*, Naples, 25-26 May 2017.
3. T. Martelli, F. Colone, R. Cardinali, "DVB-T based passive radar for maritime surveillance," *GTTI Radar and Remote Sensing Workshop*, Naples, 25-26 May 2017.
4. T. Martelli, F. Colone, P. Lombardo, "Detection and 3D localization of drones and ultralight aircrafts for a WiFi-based Passive Radar," *6th PCL Focus Day*, Wachtberg (Germany), 23-24 May 2017.
5. T. Martelli, F. Colone, R. Cardinali, A. Di Lallo, "DVB-T based passive radar for maritime surveillance," *6th PCL Focus Day*, Wachtberg (Germany), 23-24 May 2017.
6. T. Martelli, D. Pastina, F. Colone, P. Lombardo, "Indoor radar surveillance exploiting WiFi signals," *5th PCL Focus Day*, Wachtberg (Germany), 28-29 April 2015.

7. A. Macera, C. Bongioanni, F. Colone, C. Palmarini, T. Martelli, D. Pastina, and P. Lombardo, "FM-based Passive Bistatic Radar in ARGUS 3D: Experimental Results," *GTTi 2013 - Riunione Annuale*, Ancona, Italy, 24-26 June 2013.

### **Conference attended**

Since 2015, Dr. Martelli attended as speaker to several conferences related to radars, presenting several of her research results:

- IRS 2018, 19th International Radar Symposium, Bonn, Germany, 20-22 June 2018
- GTTI Radar and Remote Sensing Workshop, Pavia, Italy, 28-29 May 2018
- IEEE RadarConf 2018, Oklahoma City, Oklahoma (USA), 23-27 Apr. 2018
- IEEE International Conference on Environmental Engineering, Milan, Italy, 12-14 March 2018
- GTTI Radar and Remote Sensing Workshop, Naples, Italy, 25-26 May 2017
- 6<sup>th</sup> PCL Focus Days 2015, Wachtberg, Germany, 23-24 May 2017
- IEEE Radar Conference 2017, Seattle, WA, 8-12 May 2017
- EURAD 2016, European Radar Conference 2016, London, UK, 3-7 Oct. 2016
- IRS 2016, 17th International Radar Symposium, Krakow, Poland, 10-12 May 2016
- IEEE Radar Conference 2016, Philadelphia, Pennsylvania (USA), 2-6 May 2016
- IEEE Radar Conference 2015, Arlington, Virginia (USA), 10-15 May 2015
- 5<sup>th</sup> PCL Focus Days 2015, Wachtberg, Germany, 28-29 April 2015

### **Awards and Other activities**

1. 2018 - Co-author of the Second Student Paper awarded at the 2018 IEEE Radar Conference (Oklahoma City, Oklahoma, USA): "Target DoA estimation in Passive Radar using nonuniform linear arrays and multiple frequency channels", by F. Filippini, T. Martelli, F. Colone and R. Cardinali.
2. 2017 - Invited seminar on "Recent Advances in Passive Radar for Maritime Surveillance" at the Nanyang Technological University (NTU), Singapore.
3. 2017 - Invited seminar on "WiFi-based Passive Radar for Short Range Surveillance" at the Nanyang Technological University (NTU), Singapore.
4. 2016-ON: she usually is a reviewer for the following journals: IEEE Trans. on Aerospace and Electronic Systems, IEEE Signal Processing Letters, International Journal of Electronics and Communications.

### **Skills and Competences**

*Native Language:* Italian

*Other Languages:* English (B2)

*Driving licence:* category B

*Programming:* good knowledge of MATLAB, basic knowledge of C++

4-01-2019

Tatiana Martelli