# EUROPEAN CURRICULUM VITAE FORMAT

## PERSONAL INFORMATION

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| Name | **ILENIA TINNIRELLO** |
| Address | |
| Telephone | |
| Fax | |
| E-mail | |
| Website | **https://www.unipa.it/persone/docenti/t/ilenia.tinnirello** |
| Nationality | Italian |
| Date of birth | 28/11/1976 |

## GENERAL RESEARCH INTERESTS

Wireless networks, programmable networks, localization, privacy, Internet-of-things, low-power wide area networks, underwater communications, data mining, machine learning.

## BIBLIOMETRIC SUMMARY DATA

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|---|---|
| • Total international publications | [165] |
| • Total citations | [4523] source scholar.google.com |
| • H-index | [28] source scholar.google.com |

## EDUCATION AND TRAINING

**February 2004**
PhD in Electronic Engineering, Computer Science and Telecommunications, with a thesis titled "Resource Management in Wireless Packet Networks", tutor Prof. Giuseppe Bianchi.
University of Palermo

**April 2000**
Master's degree in Electronic Engineering, grade 110/110 cum laude, thesis: "Handover and Admission Control in cellular packet networks", supervisor Prof. Giuseppe Bianchi
University of Palermo

## PRINCIPAL POSITIONS

**30/12/2020 – Current**
Full professor, sector 09/F2, ING-INF03, Telecommunications
University of Palermo

**Dec. 2017 – Current**
Coordinator of the International PhD Program in ICT
University of Palermo

**June 2017 – Current**
Data Protection Officer
University of Palermo

**Sept. 2015 – 29/12/2020**
Associate professor, sector 09/F2, ING-INF03, Telecommunications engineering
University of Palermo

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| **30/12/2004 – Sept. 2015** | Assistant professor, sector 09/F2, ING-INF03, Telecommunications engineering<br>University of Palermo |

**ADDITIONAL POSITIONS**

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| **Since Jan. 2015** | Technical Coordinator and founding member of the academic start-up In.sight, specialized in systems for supporting the autonomous navigation of visually impaired people<br>In.sight srl, Palermo |

**VISITING POSITIONS**

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| **June to July 2007** | Visiting Researcher<br>Seoul National University, Seoul, South Korea |
| **June to August 2006** | Visiting Researcher<br>Nanyang Technological University in Singapore |
| **March to November 2004** | Visiting Researcher, "Multimedia and Wireless Network Lab", invited by Prof. Sunghyun Choi.<br>Seoul National University, Seoul, South Korea |

**TEACHING**

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|---|---|
| **• Current** | Wireless Networks<br>Machine Learning<br>Internet |
| **• Past** | Computer Networks<br>Queuing Theory<br>Telecommunication Systems<br>Local Area Networks for Home and Building Automation<br>Digital Signal Processing<br>Object Oriented Programming and distributed applications |

Thesis supervisor for more than 30 Master students and 13 PhD students (Domenico Garlisi, Fabrizio Giuliano, Giuseppe Di Bella, Alice Lo Valvo, Cettina Barcellona, Giovanni Galioto, Concetta Baldone, Vincenzo Taormina, Salvatore Perna, Kien Ngo, Marco Siino, Antonino Pagano, Gabriele Restuccia.)

Coordinator of the PhD Programme in ICT at the University of Palermo.

**GRANTS & PROJECTS**

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| October 2022 – Sep. 2025 | Scientific coordinator of the European Digital Innovation Hub i-NEST. (Budget 6M€) |
| June 2019 – Dec. 2022 | Local unit coordinator of the European H2020 Marie Curie Innovative Training Networks 2018 Enligthem (European Training Network in Low-energy Visible Light IoT Systems) project. Managed budget 260 Keuro. |
| Jan. 2021-Dec. 2023 | Participant to the European H2020 Project ELEGANT, sEcure and seamLess EdGe-to-cloud ANalyTics". |
| Jan. 2015 – Dec. 2017 | Local unit coordinator and WP leader for the Horizon 2020 Project WiSHFUL: Wireless Software and Hardware platforms for Flexible and Unified radio and network control. Managed budget 460 Keuro.<br>University of Palermo |

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|---|---|
| Jan. 2013 to Dec. 2015 | Italian coordinator for the bilateral collaboration project MAE Italy-Poland: ADvanced WiFi networks for HOme Customized applications (ADHOC). Exchange project. University of Palermo |
| March 2013 to Dec. 2015 | Local unit coordinator for the FP7 Project CABIN-CREW: The Wireless MAC Processor over CREW: enabling Cognitive Access BenchmarkINg (CABIN-CREW). Managed budget 120 Keuro. University of Palermo |
| Nov. 2012 to Sept. 2015 | Task leader for the national project PON 04 Smart Cities and Communities: Innovation for greeN EXchange in Transportaton (i NEXT). Managed budget 500 Keuro. University of Palermo |
| 2012-2015 | Responsible for the POR Sicilian project New Technologies for Broadcast Transmission (TTB). Managed budget 500 Keuro. The project was interrupted, after the first year of activity, following the withdrawal of the company partners. University of Palermo |
| July 2010 – June 2013 | Technical coordinator of the European project FP7 FLAVIA (Flexible Architecture for Virtualizable future wireless Internet Access). Budget of the whole proposal about 3Meuro |
| March 2007 – Dec. 2008 | Responsible of the collaboration between University of Palermo and Italtel, for the FAR NAIN (Nomadic Access in IP Networks) project. Managed budget: 400 Keuro. University of Palermo |
| Since November 2009 | Local unit coordinator (replacing Prof. Alcuri) for the European project FP7 Pan-European Laboratory Infrastructure Implementation (PANLAB II). University of Palermo |
| Jan. 2006 to Dec. 2007 | Local unit coordinator for the national project PRIN MIMOSA (Experimental measures and multi-service data traffic models in package) University of Palermo |

## SELECTED PUBLICATIONS AND RESEARCH REPORTS

(out of more than **160** publications)

- F. MENEGHELLO, D. GARLISI, N. DEL FABBRO, I. TINNIRELLO, M. ROSSI. SHARP: Environment and Person Independent Activity Recognition with Commodity IEEE 802.11 Access Points, IEEE Transactions on Mobile Computing, 2022
- KOSEK-SZOTT K. LO VALVO A., SZOTT S, GALLO P, TINNIRELLO I, Downlink channel access performance of NR-U: Impact of numerology and mini-slots on coexistence with Wi-Fi in the 5 GHz band, (2021) Computer Networks, DOI: 10.1016/j.comnet.2021.108188.
- MERANI M.L., CROCE D., TINNIRELLO I, Rings for privacy: An architecture for large scale privacy-preserving data mining (2021) IEEE Transactions on Parallel and Distributed Systems, 32 (6), art. no. 9314057, pp. 1340-1352, DOI: 10.1109/TPDS.2021.3049286.
- GARLISI D., TINNIRELLO I., BIANCHI G., CUOMO F., Capture Aware Sequential Waterfilling for LoRaWAN Adaptive Data Rate (2021) IEEE Transactions on Wireless Communications, 20 (3), art. no. 9275333, pp. 2019-2033, DOI: 10.1109/TWC.2020.3038638
- MANGIONE S., GARBO G., GALIOTO G.E., CROCE D., TINNIRELLO I., PETRIOLI C., A Channel-Aware Adaptive Modem for Underwater Acoustic Communications, (2021) IEEE Access, 9, art. no. 9438682, pp. 76340-76353, DOI: 10.1109/ACCESS.2021.3082766.
- CROCE, D., GUCCIARDO, M., MANGIONE, S., SANTAROMITA, G., TINNIRELLO, I. LoRa Technology Demystified: From Link Behavior to Cell-Level Performance, (2020) IEEE Transactions on Wireless Communications, 19 (2), art. no. 8886735, pp. 822-834. Cited 2 times. DOI: 10.1109/TWC.2019.2948872, ISSN: 15361276
- BAIOCCHI, A., GARLISI, D., VALVO, A.L., SANTAROMITA, G., TINNIRELLO, I. 'Good to Repeat': Making Random Access Near-Optimal with Repeated Contentions, (2020) IEEE Transactions on Wireless Communications, 19 (1), art. no. 8889514, pp. 712-726. DOI: 10.1109/TWC.2019.2948161, ISSN: 15361276

- CROCE, D., GUCCIARDO, M., MANGIONE, S., SANTAROMITA, G., TINNIRELLO, I., Impact of LoRa Imperfect Orthogonality: Analysis of Link-Level Performance (2018) IEEE Communications Letters, 22 (4), pp. 796-799. Cited 76 times. DOI: 10.1109/LCOMM.2018.2797057, ISSN: 10897798.
- TINNIRELLO I, BIANCHI G. (2010). Rethinking the IEEE 802.11e EDCA performance modeling methodology . IEEE-ACM TRANSACTIONS ON NETWORKING, vol. 18, p. 540-553, ISSN: 1063-6692, DOI: 10.1109/TNET.2009.2029101
- TINNIRELLO I, BIANCHI G., GALLO P., GARLISI D., GIULIANO F., GRINGOLI F. (2012). Wireless MAC processors: Programming MAC protocols on commodity hardware. In: Proceedings - IEEE INFOCOM; IEEE Conference on Computer Communications, INFOCOM 2012. Orlando, FL (USA), 25 March 2012 through 30 March 2012, p. 1269-1277, ISBN: 978-146730775-8, DOI: 10.1109/INFCOM.2012.6195488
- TINNIRELLO I. NEGLIA G. GIARRE L. DI BELLA G. ALAIN J., IPPOLITO M. (2016). Large Scale Control of Deferrable Domestic Loads in Smart Grids. IEEE TRANSACTIONS ON SMART GRID, p. 1-9, ISSN: 1949-3053.

## PERSONAL SKILLS AND COMPETENCES

### MOTHER TONGUE

ITALIAN

### OTHER LANGUAGES
- Reading skills
- Writing skills
- Verbal skills

ENGLISH
EXCELLENT
EXCELLENT
EXCELLENT

### TECHNICAL SKILLS AND COMPETENCES

EXCELLENT KNOWLEDGE OF NETWORK ARCHITECTURES, OPERATING SYSTEMS, LOW AND HIGH LEVEL PROGRAMMING LANGUAGES.

RESULTS IN TECHNOLOGY TRANSFER
PARTICIPATION IN THE ACADEMIC SPIN-OFF IN.SIGTH WINNER OF THE START-CUP PALERMO 2014 award and the UK Trade Investment award, for the best innovative business ideas, with a business plan on the development of a navigation service for blind people based on the use of commercial smartphones and computer vision techniques.
http://www.startcuppalermo.it/2014/09/30/la-startcup-palermo-2014-ha-i-suoi-vincitori/

PATENTS:
CROCE D., GALLO P., GALIOTO N., GARLISI D., GIARRE L., GIULIANO F., TINNIRELLO I: ITALIAN PATENT APPLICATION ON THE ARIANNA NAVIGATION SYSTEM FOR THE BLIND, APPLICATION NUMBER BG2014A000054.

BIANCHI G, GALLO P, GARLISI D, GIULIANO F, GRINGOLI F, TINNIRELLO I.: ITALIAN PATENT APPLICATION "METHOD FOR PROCESSING DATA PACKETS, INCLUDING THEIR TRANSMISSION USING MORE THAN ONE MAC PROTOCOL, AND WIRELESS NETWORK NODE/METHOD OF PROCESSING DATA PACKETS, INCLUDING TRANSMITTING THEM USING MORE THEN ONE MAC PROTOCOL, AND WIRELESS NETWORK NODE" (APPLICATION NUMBER MI2013A000532; HTTP://WWW.UIBM.GOV.IT/UIBM/DATI/TITOLARE.ASPX?LOAD=INFO_UNO&ID=2141758&TABLE =INVENTION#ANCORASEARCH)

TINNIRELLO I, BIANCHI G, GALLO P, GARLISI D, GIULIANO F, GRINGOLI F: AMERICAN PATENT APPLICATION No. 13/907,546 FOR "METHOD OF CHANGING THE OPERATION OF WIRELESS NETWORK NODES", ABOUT NOVEL ARCHITECTURES FOR WIRELESS CARDS;

### ORGANISATIONAL SKILLS AND COMPETENCES
*Coordination and administration of people, projects and budgets; at work, in voluntary work.*

MAJOR COORDINATION ROLES AT THE UNIVERSITY OF PALERMO:
- COORDINATOR OF THE INTERNATIONAL PHD PROGRAM IN ICT FROM 2017
- DELEGATE TO THE RESEARCH ACTIVITIES OF THE ENGINEERING DEPARTMENT AT THE UNIVERSITY OF PALERMO FROM OCTOBER 2021
- DATA PROTECTION OFFICER OF THE UNIVERSITY OF PALERMO FROM 2018
- COORDINATOR OF THE ERASMUS PROGRAM WITH THE UNIVERSITY OF PIREOUS (GREECE)

- SCIENTIFIC COORDINATOR OF THE PALERMO RESEARCH UNIT OF CNIT (NATIONAL INTER-UNIVERSITY CONSORTIUM FOR TELECOMMUNICATIONS), FROM 2010 TO 2013.
- COORDINATOR OF THE TELECOMMUNICATIONS NETWORKS GROUP

ORGANIZATION OF CONFERENCES AND TUTORIALS:
- TPC CO-CHAIR FOR THE CONFERENCE ACM SECON 2022
- FINANCE CHAIR FOR THE WORKSHOP ACM MOBILE AD HOC NETWORKING AND COMPUTING (MOBIHOC 2019), CATANIA.
- EDAS CHAIR FOR THE WORKSHOP IEEE SMILING 2019: SUSTAINABLE NETWORKING THROUGH MACHINE LEARNING AND INTERNET OF THINGS, CO-LOCATO CON INFOCOM 2019.
- PUBLICITY CO-CHAIR FOR THE CONFERENCE IEEE BLACKSEACOM 2019.
- WORKSHOP CO-CHAIR FOR IEEE EUROPEAN WIRELESS, CATANIA, 2018.
- TRACK CO-CHAIR FOR THE CONFERENCE IEEE RESEARCH AND TECHNOLOGIES FOR SOCIETY AND INDUSTRY (RTSI) 2018, PALERMO
- TECHNICAL PROGRAM CO-CHAIR FOR THE WORKSHOP COMPUTER AND NETWORKING EXPERIMENTAL RESEARCH USING TESTBEDS – COMMITTEE (CNERT), 2018, CO-LOCATO CON INFOCOM 2018
- GENERAL CO-CHAIR FOR THE WORKSHOP ACM WIRELESS NETWORK TESTBEDS, EXPERIMENTAL EVALUATION AND CHARACTERIZATION (WINTECH) 2017, SNOWBIRD, USA.
- DEMO CHAIR FOR THE ACM WORKSHOP ON WIRELESS NETWORK TESTBEDS, EXPERIMENTAL EVALUATION AND CHARACTERIZATION (WINTECH) 2013, SEPTEMBER 2013, ORGANIZZATO NELL'AMBITO DI MOBICOM 2013
- DEMO CHAIR AT THE ACM WORKSHOP ON WIRELESS NETWORK TESTBEDS, EXPERIMENTAL EVALUATION AND CHARACTERIZATION (WINTECH) 2013, SEPTEMBER 2013
- PH.D. FORUM CO-CHAIR AT SUSTAINABLE INTERNET AND ICT FOR SUSTAINABILITY (SUSTAINIT) 2013
- GENERAL CHAIR AT PRIVACY IN STATISTICAL DATABASES (PSD 2012), SEPTEMBER 2012, PALERMO, ITALY. (HTTP://UNESCOPRIVACYCHAIR.URV.CAT/PSD2012/INDEX.PHP?M=ORGANIZATION).
- LOCAL ORGANIZER AT MEDITERRANEAN CONFERENCE ON CONTROL AND AUTOMATION (MED 2014), PALERMO, ITALY, JUNE 2014
- TUTORIAL ORGANIZER (AND SPEAKER) ON "PROGRAMMABILITY OF WIRELESS NETWORKS" AT ACM SIGCOM 2012, AUGUSTO 2012, HELSINKI, FINLAND (HTTP://CONFERENCES.SIGCOMM.ORG/SIGCOMM/2012/PWN.PHP).
- GENERAL CO-CHAIR AT MULTI MEDIA APPLICATIONS OVER WIRELESS NETWORKS (MEDIAWIN) EDITIONS 2006, 2007, 2008 AND 2009
- GENERAL CO-CHAIR AT IEEE ISWPC 2010, MAY 2010, MODENA, ITALY.
- LOCAL ORGANIZER AT: SPAIN, ITALY, AND NETHERLANDS MEETING ON GAME THEORY (SING 6), PALERMO, ITALY, 2010.
- LOCAL ORGANIZER AT ANNUAL MEDITERRANEAN AD HOC NETWORKING WORKSHOP (MEDHOC) 2011, FAVIGNANA, ITALY, JUNE 2011.

PARTICIPATION TO SEVERAL TECHNICAL COMMITTEES, AMONG WHICH:
WOWMOM 2006/2007/2010/2011 (WORLD OF WIRELESS, MOBILE AND MULTIMEDIA NETWORKS)
IEEE WCNC 2005/2009/2018 (WIRELESS AND COMMUNICATION NETWORKING CONFERENCE)
IEEE ICC 2010/2011/2013/2014 (INTERNATIONAL CONFERENCE ON COMMUNICATION)
IIEEE GLOBECOM 2010/2011/2013 (GLOBAL COMMUNICATION CONFERENCE)
IEEE INFOCOM 2013/2014 2016-2021 (INTERNATIONAL CONFERENCE ON COMPUTER COMMUNICATIONS)

**PRIZES AND AWARDS**

BEST DEMO AWARD AT ACM WINTECH 2014 "BUSYBEE: LOW RATE WIFI-ZIGBEE COMMUNICATIONS WITHOUT GATEWAYS".

BEST PAPER AWARD FOR THE ARTICLE "A CONTROL ARCHITECTURE FOR WIRELESS MAC PROCESSOR NETWORKING" PRESENTED AT THE INTERNATIONAL CONFERENCE FUTURE NETWORKS AND MOBILE SUMMIT 2013 (HTTP://WWW.FUTURENETWORKSUMMIT.EU/2013/).

BEST PAPER AWARD FOR THE ARTICLE "SUPPORTING A PSEUDO-TDMA ACCESS SCHEME IN MESH WIRELESS NETWORKS" AT WIFLEX 2013

NOMINATED FOR THE BEST PAPER AWARD INFOCOM 2012 WITH THE ARTICLE "WIRELESS MAC PROCESSORS: PROGRAMMING MAC PROTOCOLS ON COMMODITY HARDWARE"; THE ARTICLE OBTAINED THE HIGHEST POSSIBLE RATING FROM ALL THREE REVIEWERS (5,5,5) AND WAS SELECTED IN THE LIST OF THE BEST 6 ARTICLES (OUT OF THE 278 SUBMITTED AT THE CONFERENCE).

BEST DEMO AWARD AT ACM WINTECH 2011 "MAC–ENGINE: A NEW ARCHITECTURE FOR EXECUTING MAC ALGORITHMS ON COMMODITY WIFI HARDWARE".

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, to the GDPR, D.Lgs 196/2003 and D.Lgs 101/2018, I hereby express my consent to process and use my data provided in this CV.

Io sottoscritta Ilenia Tinnirello autorizzo il trattamento dei dati personali presenti nel CV ai sensi del GDPR (Regolamento UE 2016/679), del D.lgs. 196/2003 e del D.Lgs. 101/2018

Palermo, 02.03.2023
**Ilenia Tinnirello**