



MONICA NICOLI

Associate Professor, PhD
Department of Management, Economics and Industrial Engineering (DIG)
Politecnico di Milano
Piazza L. da Vinci, 32, 20133 Milano
e-mail: monica.nicoli@polimi.it
Phone +39 02 2399 4079, +39 02 2399 3429
e-mail: monica.nicoli@polimi.it
homepage: nicoli.faculty.polimi.it

EDUCATION

1/2002 Ph.D. in Electronic and Communication Engineering, Politecnico di Milano.
7/1998 M.Sc. degree (with honors) in Telecommunication Engineering, Politecnico di Milano.

ACADEMIC POSITIONS

7/2019- Associate Professor in Telecommunication, Politecnico di Milano.
1/2019- Core Faculty Member of the School of Management, DIG, Politecnico di Milano.
4/2017- National Scientific Qualification as Associate Professor in Telecommunications.
12/2002-12/2018 Assistant Professor in Telecommunication, Faculty Member of Dipartimento di Elettronica, Informazione e Bioingegneria (DEIB), Politecnico di Milano.
3/2002-12/2002 Post Doc Researcher, Politecnico di Milano.
3/2001-8/2001 Visiting Researcher at Signals and Systems, Uppsala University, Sweden.
9/1998-3/1999 Visiting Researcher at Geophysics and Geology Research Unit, ENI-Divisione Agip, Italy.
11/1998-1/2002 PhD student in Electronic and Communication Engineering, Politecnico di Milano.

AWARDS

2021 **Best Paper Award** of the 2021 IEEE Symposium on Joint Communications and Sensing (JC&S), for the paper: D. Tagliaferri, M. Rizzi, S. Tebaldini, M. Nicoli, I. Russo, C. Mazzucco, A.V. Monti-Guarnieri, C.M. Prati and U. Spagnolini, “Cooperative Synthetic Aperture Radar in an Urban Connected Car Scenario”.

2018 **Best Student Paper Award** of the 2018 IEEE Workshop on Statistical Signal Processing, for the paper: M. Brambilla, G. Soatti, M. Nicoli, “Precise vehicle positioning by cooperative feature association and tracking in vehicular networks”.

2015 **Best Booth Award** at the European Conference on Networks and Communications (EuCNC), for the EU FP7 DIWINE.

2014 **Best Paper Award** of the IET Intelligent Transport Systems journal, for the paper: A. Pascale, M. Nicoli, F. Deflorio, B. Dalla Chiara, U. Spagnolini, “Wireless sensor networks for traffic management and road safety”.

2003 **Inventor Siemens**, by Siemens for patents filed in 2001-2002.

2002 **Inventor Siemens**, by Siemens for patents filed in 1999-2001.

1999 **Marisa Bellisario Award** (<http://www.fondazionebellisario.org/il-premio/edizioni-del-premio-marisa-bellisario/il-premio-1999/>).

1998 **Best Thesis Awards** in Petroleum Engineering and Geosciences, by SPE and EAGE.

Co-recipient as **Advisor for MSc thesis** of the following **Best Thesis Awards**:

2019 **Huawei Italy University Challenge – Best Presentation** (student E. Bozzi)
2019 **Huawei Italy University Challenge – Best Thesis Award** (student G. Ciaramitaro)

- 2018 **Quadrato della Radio** (student M. Brambilla).
- 2013 **AICA-CINI-CNIT** (student F. Carminati).
- 2010 **AICA-Confindustria** (student A. Pascale).
- 2010 **Marconi Junior** (student D. Fontanella).
- 2009 **IBM Italy** (student A. Pascale).
- 2008 **Meucci-Marconi** (student D. Molteni).

TEACHING EXPERIENCE

Since 2003, Professor in charge of several courses in Telecommunications for the BSc/MSc/PhD Programs in Engineering at Politecnico di Milano, currently:

- **Communication Technologies for Vehicles**, 5 credits, MSc in Mobility Engineering.
- **Localization, Navigation and Smart Mobility**, 5 credits, MSc in Telecommunication Engineering (since 2010-11).
- **Digital Technologies**, 5 credits, BSc in Management Engineering.

Supervisor/co-supervisor of **45 MSc Theses** and **6 PhD Theses**, and opponent for **3 PhD Theses**.

RESEARCH ACTIVITIES

Expertise

Statistical signal processing and wireless communications, with emphasis on Intelligent Transportation Systems, vehicular communications, localization and navigation, statistical inference and learning, distributed processing for cooperative systems in the Internet of Things/Vehicles.

Coordination of research groups and lab facilities

- Scientific co-director (since 2020) of **IoTLab**, interdepartmental laboratory of Politecnico di Milano (DEIB-DIG) (<https://www.iotlab.polimi.it/>).
- Co-funder (in 2016) of **WaveLab** (Wavefield characterization, measurement and processing), joint laboratory of Politecnico di Milano and Consiglio Nazionale delle Ricerche (CNR) dedicated to the design, development and test of mmWave communication/processing systems (<http://www.wavelab.polimi.it/>).
- Co-funder (in 1999) of **WisyLab** (Wireless Systems Laboratory), DEIB, Politecnico di Milano, focused on PHY/MAC components and signal processing algorithms for wireless communication systems (<https://www.deib.polimi.it/eng/deib-labs/details/46>).

Research projects

- **POR-FESR BASE5G**, “Broadband InterfAcEs and services for Smart Environments enabled by 5G technologies”, 2020-2022, Lombardy Region Government funding, with Vodafone, AKKA, LIFE, ANOTHERREALITY, YAPE: Coordinator of V2X activities in the use case “Smart Mobility and Vehicles”.
- **Observatory Smart & Connected Car**, 2019-, School of Management, Politecnico di Milano. Senior Advisor.
- **POR-FESR Total Efficiency 4.0**, 2017-2019, Lombardy Region Government funding, with Pirelli and TELCO. Coordinator of activities on real-time localization systems in smart factory.
- **MIUR-CTN MIE**, 2014-2018, “Mobilità Intelligente Ecosostenibile” (Sustainable Smart Mobility), #CTN01_00034_594122, “Tecnologie per le Smart Communities”, National Government funding. Coordinator for activities in work package OR1 “Data acquisition and fusion from heterogeneous sensors”, leader for task 1030.02 “Selection and analysis of data sources”.
- **EU-FP7 DIWINE**, 2013-2016, “Dense cooperative WIREless NETwork”, ICT-2011-8-318177. Co-leader for work package WP3 “Cloud Network Processing”.
- **EU-ICT-COST Action IC1004**, 2011-2015, “Cooperative Radio Communications for Green Smart Environments”, European Cooperation in Science and Technology. Participant.

- **EU-FP7 NEWCOM++**, 2008-2011, “Network of Excellence in Wireless COMMunications”, EU Project #IST-216715. POLIMI unit Principal Investigator. Leader for task TB4 “Positioning in MIMO and Cooperative Wireless Communications” of work package WPR.B “Localization and Positioning Techniques”.
- **MIUR-FIRB INSYEME**, 2007-2010, “Integrated System for Emergency”, National Government funding. Leader for WP2 “Communication Infrastructure” subtasks 1.2, 1.6, 2.3.
- **EU-ICT-COST Action 2100**, 2007-2010, “Pervasive Mobile & Ambient Wireless Communications”, European Co-operation in the field of Scientific and Technical Research. Participant.
- **EU-FP6 NEWCOM**, 2004-2007, “Network of Excellence in Wireless COMMunications”, EU Project #IST-2002-507525. Leader of POLIMI subtasks in WPR1 “Analysis and design of algorithms for signal processing at large in wireless systems”.
- **MIUR-FIRB VICOM**, 2002-2006, “Virtual Immersive COMMunication”, National Government funding. Leader of POLIMI subtasks on radio-localization in workpackage WP.3 “Tecnologie trasmissive e di accesso per piattaforme VICom”.
- **Giovani Ricercatori Politecnico di Milano**, 2002-2003, “Advanced signal processing for 3G mobile systems”. Principal Investigator.
- **EU-ICT-COST Action 273**, 2001-2005, “Towards Mobile Broadband Multimedia Networks”, European Co-operation in the field of Scientific and Technical Research, Participant.

Industrial cooperations

- **Huawei**, “SAR Techniques for Automotive Applications: Development and Consolidation,” 2020-2021, POLIMI-HUAWEI mm-wave Joint Lab. Leader of WP “Navigation sensors and data processing”.
- **Huawei**, “5G NR FR1/FR2 V2X Communications”, 2020-2021, POLIMI-HUAWEI mm-wave Joint Lab. Leader of WP “Sensor-Assisted V2X Communication Links Design”.
- **Tracking4Fun**, “Analisi e ottimizzazione di sistema di localizzazione UWB per applicazioni sportive”, 2020, Principal Investigator.
- **Huawei**, “SAR imaging for automotive applications”, 2019-2021, POLIMI-HUAWEI mm-wave Joint Lab. Leader of WP “Navigation”.
- **Join Lab Mobilità urbana elettrica, autonoma e connessa**, 2018-2019, “Fase 1 investigativa”. Coordinator of POLIMI activities on V2X connectivity.
- **Huawei**, 2017-2018, “Advanced signal processing for distributed antenna systems in B5G Communications”. Coordinator of the activity on mmWave channel estimation.
- **Ansaldo STS**, 2012, “Wireless network protocols for control of railway systems: feasibility study”. Principal Investigator.
- **Joint Research Center for Transportation**, “Signaling in railway systems”, 2010-2011, with RFI, Ansaldo, Bombardier, Sirti. Participant.
- **Nokia Siemens Networks**, 2008-2009, “Advanced receivers for GSM/EDGE systems with orthogonal subchannel feature”. Principal Investigator.
- **Siemens M.C.**, 2006-2007 “Multiple antenna systems for IEEE 802.16e multi-cell systems”. Technical Coordinator.
- **Siemens M.C.**, 2004-2005, “Array processing techniques for WMAN systems based on IEEE 802.16 standard”. Technical Coordinator.
- **Siemens M.C.**, 2003, “TDD for UMTS Test System - TUTSY”. Participant.
- **Siemens I.C.N.**, 2000-2002, “Space-time processing techniques for multiple antenna receivers in CDMA systems”. Participant.
- **Italtel**, 1998-2000, “Channel estimation in 2G-3G mobile systems”. Participant.
- **ENI-Agip**, 1997-1999, “Seismic monitoring for energy reservoir discovery”. Participant.

EDITORIAL WORK

Associate Editor for the EURASIP Journal on Wireless Communications and Networking, 2010-2017.

Lead Guest Editor for the Special Issue on Localization in Mobile Wireless and Sensor Networks, for the EURASIP Journal on Wireless Communications and Networking, June 2011.

Reviewer for several Transactions, Journals and Conferences. Appreciated reviewer for Trans Signal Processing (2002-2006, 2008).

TPC Member at the following conferences: IEEE GLOBECOM 2019, IEEE GLOBECOM 2018; IEEE PIMRC 2018; IEEE ITSC 2017; IEEE PIMRC 2017; IEEE GLOBECOM 2017; EuCNC 2017; IEEE PIMRC 2016; IEEE GLOBECOM 2016; IEEE CoSDEO 2016; IEEE GLOBECOM 2015; IEEE ICC 2015; IEEE VTC-F 2015; IEEE ICUWB 2013; IEEE PIMRC 2013; IEEE VTC-F 2013; IEEE WCNC 2012; IEEE ICUWB 2011; EURASIP EUSIPCO 2011; EW 2011; WPMC 2010; GTTI 2010; IEEE WPNC 2010; IEEE VTC-S 2005.

Technical Program Co-Chair for the **9th International Workshop on High Mobility Wireless Communications**, 2020 IEEE 91st Vehicular Technology Conference: VTC2020-Spring, 25–28 May, 2020, Antwerp, Belgium.

PARTICIPATION TO TECHNICAL COMMITTEES AND SOCIETIES

• Standards' organizations

- IEEE Standardization Project P1918.1 Tactile Internet (2017-2019),
- IEEE Standard Association (2017-).

• Technical Committees

- IEEE ComSoc Signal Processing for Communications and Electronics SPCE TC (2016-),
- IEEE ComSoc Radio Communications RCC (2009-).

• Technical Societies

- IEEE ITS Society (2013-),
- IEEE Signal Processing Society (2003-),
- IEEE Communications Society (1999-),
- Institute of Electrical and Electronics Engineers, IEEE (1999-),
- European Association of Geoscientists and Engineers, EAGE (1997-2002).

MEMBERSHIP IN ADMINISTRATIVE BOARDS OF RESEARCH INSTITUTIONS

Member of the Administrative Board of Dipartimento di Elettronica e Informazione, 2006-2008 and 2009-2012.

SERVICES AT POLITECNICO DI MILANO

- **President of the Graduations Committee** for the MSc. in Mobility Engineering.
- **Member of the International Accreditation Committee** (Delega Accreditamenti) of the School of Management, 2019-.
- **Coordinator of the Class Schedule** for the MSc. in Telecommunication Engineering, 2015-2018.
- **Member of the BSc/MSc Programme Boards** of the School of Industrial and Information Engineering:
 - Mobility Engineering (2020-);
 - Management Engineering (2019-);
 - Telecommunication Engineering (2008-);
 - Mathematical Engineering (2012-2013);
 - Physics Engineering (2010-2012 and 2013-2016);
 - Computer Science and Engineering (2009-2010);
 - Electronics Engineering (2003-2007).

PUBLICATIONS

Google Scholar (user=r0qzdnUAAAAJ&hl=it)

- Citations: 1769
- H index: 23
- i10-index: 45

Scopus (authorId=35577193000)

- Citations: 1168
- H index: 19
- Documents: 91

Journals

- A1. V. Rampa, M. NICOLI, C. Manno, S. Savazzi, "EM Model-based Device-free Localization of Multiple Bodies," MDPI Sensors, to appear, 2021.
- A2. D. Tagliaferri, M. Rizzi, M. NICOLI, S. Tebaldini, I. Russo, A.V. Monti-Guarnieri, C.M. Prati, U. Spagnolini, "Navigation-aided Automotive SAR for High-resolution Imaging of Driving Environments," IEEE Access, Feb. 2021, DOI 10.1109/ACCESS.2021.3062084.
- A3. S. Savazzi, M. NICOLI, M. Bennis, S. Kianoush, L. Barbieri, "Opportunities of Federated Learning in Connected, Cooperative and Automated Industrial Systems," IEEE Communications Magazine, Feb. 2021.
- A4. M. Brambilla, L. Combi, A. Matera, D. Tagliaferri, M. NICOLI, U. Spagnolini, "Sensor-Aided V2X Beam Tracking for Connected Automated Driving: Distributed Architecture and Processing Algorithms," MDPI Sensors, vol. 20, no. 12, pp. 1-27, #3573, June 2020.
- A5. A. Brighente, M. Cerutti, M. NICOLI, S. Tomasin, U. Spagnolini, "Estimation of Wideband Dynamic mmWave and THz Channels for 5G Systems and Beyond," Journal on Selected Areas in Communications, Special Issue on Multiple Antenna Technologies for Beyond 5G, IEEE Journal on Selected Areas in Communications, Vol. 38, No. 9, pp. 2026-2040, Sept. 2020.
- A6. M. Brambilla, M. NICOLI, G. Soatti, F. Deflorio, "Augmenting Vehicle Localization by Cooperative Sensing of the Driving Environment: Insight on Data Association in Urban Traffic Scenarios," IEEE Trans. on Intelligent Transportation Systems, Special Issue on Future Motorways and Urban Traffic Systems, pp. to appear, April 2020.
- A7. S. Savazzi, M. NICOLI, and V. Rampa, "Federated Learning with Cooperating Devices: A Consensus Approach for Massive IoT Networks," in IEEE Internet of Things Journal, doi: 10.1109/JIOT.2020.2964162, Jan 2020. **Top 50 most frequently accessed documents**
- A8. M. Jalal Abadi, L. Luceri, M. Hassan, C. T. Chou, and M. NICOLI, "A cooperative machine learning approach for pedestrian navigation in indoor IoT," MDPI Sensors vol. 19, no. 21, pp. 1-24, #4609, Oct. 2019.
- A9. S. Kianoush, S. Savazzi, V. Rampa, M. NICOLI, "People Counting by Dense WiFi MIMO Networks: Channel Features and Machine Learning Algorithms," MDPI Sensors, vol. 19, no. 16, #3450, Aug. 2019.
- A10. G. Soatti, S. Savazzi, M. NICOLI, M.A. Alvarez, S. Kianoush, V. Rampa, U. Spagnolini, "Distributed signal processing for dense 5G IoT platforms: Networking, synchronization, interference detection and radio sensing," Elsevier Ad Hoc Networks, vol. 89, pp. 9-21, June 2019.
- A11. G. Soatti, M. NICOLI, N. Garcia, B. Denis, R. Raulefs, H. Wymeersch, "Implicit Cooperative Positioning in Vehicular Networks," IEEE Trans. on Intelligent Transportation Systems, Vol. 19, N. 12, pp. 3964 – 3980, Dec. 2018.
- A12. G. Soatti, M. NICOLI, S. Savazzi, U. Spagnolini, "Consensus-based algorithms for distributed network-state estimation and localization," IEEE Trans. on Signal and Information Processing over Networks, vol. 3, no. 2, pp. 430-444, June 2017. **Top 50 most frequently accessed documents**
- A13. L. Ascorti, S. Savazzi, G. Soatti, M. NICOLI, E. Sisinni, S. Galimberti, "A wireless cloud network platform for industrial process automation: Critical data publishing and distributed sensing," IEEE Trans.

on Instrumentation and Measurement, vol. 66, no. 4, pp. 592-603, April 2017. **Top 50 most frequently accessed documents**

- A14. S. Savazzi, S. Sigg, M. NICOLI, V. Rampa, S. Kianoush, U. Spagnolini, "Device-free radio vision for assisted living: Leveraging wireless channel quality information for human sensing," IEEE Signal Processing Magazine, vol. 33, no. 2, pp. 45-58, Mar. 2016. **Top 50 most frequently accessed documents**
- A15. V. Rampa, S. Savazzi, M. NICOLI, M. D'Amico, "Physical modeling and performance bounds for device-free localization systems," IEEE Signal Processing Letters, vol. 22, no. 11, pp. 1864-1868, Nov. 2015.
- A16. A. Pascale, F. Deflorio, M. NICOLI, B. Dalla Chiara, M. Pedroli, "Motorway speed pattern identification from floating vehicle data for freight applications," Elsevier Transportation Research Part C: Emerging Technologies, vol. 51, pp. 104-119, Feb. 2015.
- A17. J. M. Winter, I. Muller, G. Soatti, S. Savazzi, M. NICOLI, L. B. Becker, J. C. Netto, C. E. Pereira, "Wireless coexistence and spectrum sensing in industrial internet of things: An experimental study," Hindawi International Journal of Distributed Sensor Networks, vol. 2015, article ID 627083, 12 pages.
- A18. A. Pascale, M. NICOLI, U. Spagnolini, "Cooperative Bayesian estimation of vehicular traffic in large-scale networks," IEEE Trans. on Intelligent Transportation Systems, vol. 15, no. 5, pp. 2074-2088, Oct. 2014.
- A19. M. Spadacini, S. Savazzi, M. NICOLI, "Wireless home automation networks for indoor surveillance: technologies and experiments," EURASIP Journal on Wireless Communications and Networking, vol. 2014, 1 July 2014, Article number 6.
- A20. S. Savazzi, M. NICOLI, F. Carminati, M. Riva, "A Bayesian approach to device-free localization: Modeling and experimental assessment," IEEE Journal of Selected Topics in Signal Processing, Special Issue "Non-cooperative Localization Networks," vol. 8, no. 1, pp. 16-29, Feb. 2014. **Top 50 most frequently accessed documents.**
- A21. P. Castiglione, S. Savazzi, M. NICOLI, T. Zemen, "Partner selection in indoor-to-outdoor cooperative networks: An experimental study," IEEE Journal on Selected Areas in Communications, Special issue "Theories and Methods for Advanced Wireless Relays – II Part," vol. 31, no. 8, pp. 1559 – 1571, Aug. 2013.
- A22. S. Savazzi, U. Spagnolini, L. Goratti, D. Molteni, M. Latva-aho, M. NICOLI, "Ultra-wide band sensor networks in oil and gas explorations," IEEE Communications Magazine, vol. 51, no. 4, pp. 150-160, April 2013.
- A23. D. Molteni, M. NICOLI, "Joint OSC receiver for evolved GSM/EDGE systems," IEEE Trans. on Wireless Communications, vol. 12, no. 6, pp. 2608-2619, June 2013.
- A24. A. Pascale, M. NICOLI, F. Deflorio, B. Dalla Chiara, U. Spagnolini, "Wireless sensor networks for traffic management and road safety," IET Intelligent Transport Systems, vol. 6, no. 1, pp. 66-77, Mar. 2012. **Top 10 most frequently accessed documents. Best Paper Award.**
- A25. M. NICOLI, S. Gezici, Z. Sahinoglu, H. Wymeersch, "Localization in mobile wireless and sensor networks," Editorial for the Special Issue on Localization in Mobile Wireless and Sensor Networks, EURASIP Journal on Wireless Communications and Networking, Article n. 197, Dec. 2011.
- A26. D. Molteni, M. NICOLI, U. Spagnolini, "Performance of MIMO-OFDMA systems in correlated fading channels and non-stationary interference," IEEE Trans. on Wireless Communications, vol. 10, no. 5, pp. 1480-1494, May 2011.
- A27. S. Savazzi, M. NICOLI, M. Sternad, "A comparative analysis of spatial multiplexing techniques for outdoor MIMO-OFDM systems with a limited feedback constraint," IEEE Trans. on Vehicular Technology, vol. 58, no. 1, pp. 218-230, Jan. 2009.
- A28. M. NICOLI, C. Morelli, V. Rampa, "A jump Markov particle filter for localization of moving terminals in multipath indoor scenarios," IEEE Trans. on Signal Processing, vol. 56, no. 8, pp. 3801-3809, Aug. 2008.
- A29. M. NICOLI, S. Ferrara, U. Spagnolini, "Soft-iterative channel estimation: Methods and performance analysis," IEEE Trans. on Signal Processing, vol. 55, no. 6, pp. 2993-3006, June 2007.
- A30. S. Ferrara, T. Matsumoto, M. NICOLI, U. Spagnolini, "Soft iterative channel estimation with subspace and rank tracking," IEEE Signal Processing Letters, vol. 14, no. 1, pp. 5-8, January 2007.

- A31. C. Morelli, M. NICOLI, V. Rampa, U. Spagnolini, "Hidden Markov models for radio localization in mixed LOS/NLOS conditions," *IEEE Trans. on Signal Processing*, vol. 55, no. 4, pp. 1525-1542, April 2007.
- A32. M. NICOLI, U. Spagnolini, "Reduced-rank channel estimation for time-slotted mobile communication systems," *IEEE Trans. on Signal Processing*, vol. 53, no. 3, pp. 926-944, Mar. 2005.
- A33. M. NICOLI, O. Simeone, U. Spagnolini, "Multislot estimation of frequency-selective fast-varying channels," *IEEE Trans. on Communications*, vol. 51, no. 8, pp. 1337-1347, Aug. 2003.
- A34. M. NICOLI, O. Simeone, U. Spagnolini, "Multislot estimation of fast-varying space-time communication channels," *IEEE Trans. Signal Processing*, vol. 51, no. 5, pp. 1184-1195, May 2003.
- A35. M. NICOLI, O. Simeone, U. Spagnolini, "Multislot estimation of fast-varying space-time channels in TD-CDMA systems," *IEEE Communication Letters*, vol. 6, no. 9, pp. 376-378, Sept. 2002.
- A36. M. NICOLI, V. Rampa, U. Spagnolini, "Hidden Markov model for multidimensional wavefront tracking," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 40, no. 3, pp. 651-662, Mar. 2002. Cover of the issue.

Non-indexed journal

- A37. S. Arrigoni, M. Brambilla, F. Cheli, M. NICOLI, "Tecnologie per la mobilità autonoma, connessa e cooperativa: lo stato dell'arte," *Agenda Digitale EU*, pp. 1-13, June 2019.
- A38. J. A. del Peral-Rosado, G. S. Granados, R. Raulefs, E. Leitinger, S. Grebien, T. Wilding, D. Dardari, E. S. Lohan, H. Wymeersch, J.J. Floch, A. M. Tonello, S.A. Shaikh, T. Zemen, T. Pedersen, T.o Fath, C. Fernández-Prades, J. Vilà-Valls, R. Thoma, M. Nogueira, R. Zetik, W. Joseph, V. Degli Esposti, A. Navarro Cadavid, W. A. Cruz Lopez, B. Chitambira, F. Quitin, M. NICOLI, R. Oliveira, D. Plets, T. Baykas, B. R. Stojkoska, K. Trivodaliev, G. Soatti, M. Ulmschneider, B. Fleury, F. Tufvesson, F. Ponte Mueller, G. Destino, O. Renaudin, N. Franke, M. Alawieh, B. Sackenreuter, "Whitepaper on New Localization Methods for 5G Wireless Systems and the Internet-of-Things," *COST Action CA15104 IRACON white paper*, edited by K. Witrissal and C. Antón-Haro, April 2018.
- A39. H. Mark, P.H. Lin, J. Sýkora, K. Ramantas, D. Boixade, S. Galimberti, U. Spagnolini, M. NICOLI, D. Halls, S. Savazzi, "Enhancing wireless communications," *PAN European Networks, Science & Technology*, pp. 106-108, no. 17, Dec. 2015.
- A40. M. NICOLI, V. Rampa, "Bayesian Algorithms for Indoor Radio Localization," *ERCIM News, European Research Consortium for Informatics and Mathematics*, vol. 71, pp. 50-51, Oct. 2007.

Book chapters

- B1. S. Savazzi, S. Sigg, M. NICOLI, V. Rampa, S. Kianoush, U. Spagnolini, "Wireless sensing for device-free recognition of human motion," in *Radar for In-Door Monitoring: Detection, Classification, and Assessment*, edited by Moeness Amin, ISBN 9781498781985, CRC Press, 2017.
- B2. G. Bacci, P. Closas, A. D'Amico, D. Dardari, C. Fernández-Prades, D. Fontanella, S. Gezici, M. Luise, A. Mallat, U. Mengali, M. Nájar, M. NICOLI, C. Ostages, L. Vandendorpe, "Fundamental limits in the accuracy of wireless positioning," pp. 155-205, in *Satellite and Terrestrial Radio Positioning Techniques – A signal processing perspective*, edited by D. Dardari, E. Falletti, M. Luise, ISBN 978-0-12-382084-6, Elsevier, 2012.
- B3. D. Dardari, M. Di Dio, A. Emmanuele, D. Fontanella, S. Gezici, M. R. Gholami, M. Kieffer, E. Lagunas, J. Louveaux, A. Mallat, M. Nájar, M. Navarro, M. NICOLI, L. Reggiani, M. Rydström, E. G. Ström, L. Vandendorpe, F. Zanier, "Innovative signal processing techniques for wireless positioning," pp. 207-316, in *Satellite and Terrestrial Radio Positioning Techniques – A signal processing perspective*, edited by D. Dardari, E. Falletti, M. Luise, ISBN 978-0-12-382084-6, Elsevier, 2012.
- B4. M. NICOLI, S. Savazzi, O. Simeone, R. Bosisio, G. Primolevo, L. Sampietro, C. Santacesaria, "Deployment and design of multi-antenna WiMax systems in a non-stationary interference environment," pp. 1-16, in *Current Technology Developments of Wimax Systems*, edited by Maode Ma, ISBN 978-140209299-2, Springer Publications, 2009.

- B5. M. NICOLI, U. Spagnolini, "Subspace methods for space-time processing," EURASIP Book series on Signal Processing and Communications, vol. 3, pp. 27-52, in Smart Antennas – State of the Art, edited by T. Kaiser, A. Bourdoux, H. Boche, J. R. Fonollosa, J.B. Andersen, W. Utschick, Hindawi Publ. Corp., 2005.

Non-indexed books

- B6. A. Pascale, F. Deflorio, M. NICOLI, B. Dalla Chiara, M. Pedroli, "Typical speed profiles on motorways from floating vehicle data," in Environment, Land Use and Transportation Systems. Selected Papers. Scientific Seminar SIDT Venezia 6.10.2011, edited by Agostino Cappelli, Alessandra Libardo, Silvio Nocera, vol. 1797.42, pp. 272-286, ISBN 9788820456559, Franco Angeli, 2013.

International conferences

- C1. D. Tagliaferri, M. Rizzi, S. Tebaldini, M. NICOLI, I. Russo, C. Mazzucco, A.V. Monti-Guarnieri, C.M. Prati and U. Spagnolini, "Cooperative Synthetic Aperture Radar in an Urban Connected Car Scenario," 1st IEEE Symposium on Joint Communications and Sensing (JC&S), Dresden, February 2021. **Best Paper Award.**
- C2. L. Barbieri, M. Brambilla, R. Pitic, A. Trabattoni, S. Mervic, M. NICOLI, "UWB Real-Time Location Systems for Smart Factory: Augmentation Methods and Experiments," 2020 IEEE 31st Annual International Symposium on Personal, Indoor and Mobile Radio Communications, PIMRC2020, 31 August-3 September 2020, London, UK, pp. 1-6.
- C3. M. Brambilla, D. Tagliaferri, M. NICOLI, U. Spagnolini, "Sensor and Map-Aided Cooperative Beam Tracking for Optical V2V Communications," IEEE 9th International Workshop on High Mobility Wireless Communications (HMWC) 2020, IEEE 91st Vehicular Technology Conference VTC2020-Spring, 25-28 May, Antwerp, Belgium, pp. 1-7.
- C4. R. Mendrzik, M. Brambilla, C. Allmann, M. NICOLI, W. Koch, G. Bauch, K. LePage, P. Braca, "Joint Multitarget Tracking and Dynamic Network Localization in the Underwater Domain," IEEE 45th International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2020, Barcelona, Spain, May 4-8, pp. 1-5.
- C5. S. Savazzi, M. NICOLI, V. Rampa, S. Kianoush, "Federated Learning with Mutually Cooperating Devices: A Consensus Approach towards Server-Less Model Optimization," IEEE 45th International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2020, Barcelona, Spain, May 4-8, pp. 1-5.
- C6. A. Pimpinella, A. Redondi, M. NICOLI, M. Cesana, "Machine Learning based Localization of LoRaWAN Devices via Inter-Technology Knowledge Transfer," IEEE ICC 2020 Workshop on Advances in Network Localization and Navigation (ANLN), 2020 IEEE International Conference on Communications (ICC), 7-11 June 2020, Dublin, Ireland.
- C7. M. Cerutti, M. Nicoli, U. Spagnolini, "Low-latency Low-complexity Subspace Methods for mmWave MIMO-OFDM Channel Estimation," 2020 IEEE International Conference on Communications (ICC), 7-11 June 2020, Dublin, Ireland.
- C8. M. Brambilla, D. Pardo, M. Nicoli, "Location-assisted Subspace-based Beam Alignment in LOS/NLOS mm-wave V2X Communications," 2020 IEEE International Conference on Communications (ICC), 7-11 June 2020, Dublin, Ireland.
- C9. M. Brambilla, M. NICOLI, S. Savaresi, U. Spagnolini, "Inertial Sensor Aided mmWave Beam Tracking to Support Cooperative Autonomous Driving," 2019 IEEE International Conference on Communications Workshops (ICC Workshops), International Workshop on 5G and Cooperative Autonomous Driving (5G Auto), 20-24 May 2019, Shanghai, China.
- C10. M. Brambilla, A. Matera, D. Tagliaferri, M. NICOLI, U. Spagnolini, "RF-Assisted Free-Space Optics for Vehicle-to-Vehicle Communications," 2019 IEEE International Conference on Communications Workshops (ICC Workshops), 5th Workshop on Optical Wireless Communications, 20-24 May 2019, Shanghai, China.

- C11. M. Brambilla, L. Combi, M. Nicoli, S. Savaresi, U. Spagnolini, "Multi-sensor assisted cooperative beam tracking for mmWave vehicle-to-vehicle communication," 28th IEEE/EURASIP European Conference on Networks and Communications (EUCN), 18-21 June, Valencia, Spain, pp. 1-2.
- C12. S. Kianoush, S. Savazzi, M. NICOLI, "Device-free Crowd Sensing in Dense WiFi MIMO Networks: Channel Features and Machine Learning Tools", 15th IEEE Workshop on Positioning, Navigation and Communications, WPNC 2018, pp. 1-6, 25-26 Oct. 2018, Bremen, Germany.
- C13. G. Soatti, A. Murtada, M. NICOLI, J. Gambini, U. Spagnolini, "Low-Rank channel and interference estimation in mm-wave massive antenna arrays," 26th EURASIP European Signal Processing Conference (EUSIPCO), 3-7 September 2018, Rome, Italy, pp. 1-5.
- C14. M. Brambilla, G. Soatti, M. NICOLI, "Precise vehicle positioning by cooperative feature association and tracking in vehicular networks," IEEE Statistical Signal Processing Workshop, SSP 2018, 10-13 June, 2018, Freiburg, Germany. **Invited paper. Best Paper Award.**
- C15. S. Savazzi, S. Sigg, M. NICOLI, S. Kianoush, F. Le Gallx, H. Baqax, D. Remon "A cloud-IoT model for reconfigurable radio sensing: The Radio.Sense platform," IEEE World Forum on Internet of Things (WF-IoT), 5-8 February 2018, Singapore.
- C16. G. Soatti, M. NICOLI, N. Garcia, B. Denis, R. Raulefs, H. Wymeersch, "Enhanced vehicle positioning in cooperative ITS by joint sensing of passive features," IEEE International Conference on Intelligent Transportation Systems, ITSC 2017, 16-19/10/2017, Yokohama, Japan.
- C17. M. NICOLI, V. Rampa, S. Savazzi, S. Schiaroli, "Device-free localization of multiple targets," EURASIP 24th European Signal Processing Conference, EUSIPCO 2016, Special Session on Network Localization, pp. 1-5, Budapest, Hungary, 28 August – 2 September 2016. **Invited paper.**
- C18. V. Rampa, S. Savazzi, M. NICOLI, M. D'Amico, "Physical modeling and performance bounds for device-free localization systems," IEEE 41st International Conference on Acoustics, Speech and Signal Processing, ICASSP 2016, pp. 1-6, 20-25 March 2016, Shanghai, China. **Invited paper.**
- C19. S. Kianoush, V. Rampa, S. Savazzi, M. NICOLI, "Pre-deployment performance assessment of device-free radio localization systems," IEEE International Conference on Communications Workshops, ICC 2016, pp. 1-6, Kuala Lumpur, Malaysia, 23-28 May 2016.
- C20. M.A. Alvarez, G. Soatti, M. NICOLI, U. Spagnolini, "Device-to-device resource scheduling by distributed interference coordination," IEEE International Conference on Communications Workshops, ICC 2016, pp. 1-6, Kuala Lumpur, Malaysia, 23-28 May 2016.
- C21. G. Soatti, M. NICOLI, S. Savazzi, U. Spagnolini, "Distributed sensing of interference pattern in dense cooperative wireless networks," IEEE International Conference on Communications, ICC 2015, Workshops, Seventh Workshop on Cooperative and Cognitive Networks (CoCoNet7), pp. 961-966, London, UK, 8-12 June 2015.
- C22. M. J. Abadi, L. Luceri, M. Hassan, C.T. Chou, M. NICOLI, "A collaborative approach to heading estimation for smartphone-based PDR indoor localisation," IEEE 6th International Conference on Indoor Positioning and Indoor Navigation, IPIN 2014, pp. 554-563, Busan, Korea, 27-30 October 2014.
- C23. G. Soatti, M. NICOLI, A. Matera, S. Schiaroli, U. Spagnolini, "Weighted consensus algorithms for distributed localization in cooperative wireless networks," IEEE 11th International Symposium on Wireless Communication Systems, ISWCS 2014, pp. 116-120, Barcelona, Spain, 26-29 August 2014.
- C24. M. NICOLI, G. Soatti, S. Savazzi, "Distributed estimation of macroscopic channel parameters in dense cooperative wireless network," IEEE Wireless Communications and Networking Conference, WCNC 2014, pp. 972-977, Istanbul, Turkey, 6-9 April 2014.
- C25. Pascale, G. Gomes, M. NICOLI, "Estimation of highway traffic from sparse sensors: Stochastic modeling and particle filtering," IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013, pp. 6158-6162, Vancouver, BC, Canada, 26-31 May 2013.
- C26. S. Savazzi, M. NICOLI, M. Riva, "Radio imaging by cooperative wireless network: Localization algorithms and experiments," IEEE Wireless Communications and Networking Conference, WCNC 2012, pp. 2357-2361, Paris, France, 1-4 April 2012.
- C27. M. Spadacini, S. Savazzi, M. NICOLI, S. Nicoli, "Wireless networks for smart surveillance: Technologies, protocol design and experiments," IEEE Wireless Communications and Networking

- Conference, WCNC 2012, Workshop Internet of Things Enabling Technologies: “Embracing the M2M Communications and Beyond,” pp. 214-219, Paris, France, 1 April 2012.
- C28. S. Savazzi, L. Goratti, D. Fontanella, M. NICOLI, U. Spagnolini, “Pervasive UWB sensor networks for oil exploration,” IEEE International Conference on Ultra-Wideband, ICUWB 2011, pp. 225-229, 14-16 September 2011, Bologna, Italy.
- C29. Pascale, M. NICOLI, “Adaptive Bayesian network for traffic flow prediction,” IEEE Workshop on Statistical Signal Processing, SSP 2011, pp. 177-180, 28-30 June, 2011, Nice, France.
- C30. D. Molteni, M. NICOLI, M. Säily, “Resource allocation algorithm for GSM-OSC cellular systems,” IEEE International Conference on Communications, ICC 2011, pp. 1-6, 5-9 June 2011, Kyoto, Japan.
- C31. P. Castiglione, S. Savazzi, M. NICOLI, G. Matz, “Partner selection in cooperative networks: Efficiency vs fairness in ricean fading channels,” IEEE 4th International Symposium on Communications, Control, and Signal Processing, ISCCSP 2010, pp. 1-5, Limassol, Cyprus, 3-5 March 2010.
- C32. P. Castiglione, S. Savazzi, M. NICOLI, T. Zemen, “Impact of fading statistics on partner selection in indoor-to-outdoor cooperative networks,” IEEE International Conference on Communications, ICC 2010, pp. 1-6, Cape Town, South Africa, 23-27 May 2010.
- C33. D. Fontanella, M. NICOLI, L. Vandendorpe, “Bayesian localization in sensor networks: distributed algorithm and fundamental limits,” IEEE International Conference on Communications, ICC 2010, pp. 1-5, Cape Town, South Africa, 23-27 May 2010.
- C34. D. Molteni, M. NICOLI, “A novel uplink receiver for GSM/EDGE systems with orthogonal sub channel feature,” IEEE 43rd Asilomar Conference on Signals, Systems and Computers, pp. 977-981, Pacific Grove, CA, USA, 1-4 November 2009.
- C35. M. NICOLI and D. Fontanella, “Fundamental performance limits of TOA-based cooperative localization,” IEEE International Conference on Communications, ICC 2009, International Workshop on Synergies in Communications and Localization, SyCoLo 2009, pp. 1-5, Dresden, Germany, 14-18 June 2009.
- C36. P. Castiglione, M. NICOLI, S. Savazzi, T. Zemen, “Cooperative regions for coded cooperation over time-varying fading channels,” ITG/IEEE International Workshop on Smart Antennas, WSA 2009, pp. 289-296, Berlin, Germany, 16-18 February 2009.
- C37. D. Molteni, M. NICOLI, “Interference mitigation in multi-cell LTE systems: Performance over correlated fading channels,” IEEE 10th International Symposium on Spread Spectrum Techniques and Applications, ISSSTA 2008, pp. 140-144, Bologna, Italy, 25-28 August 2008. **Invited paper.**
- C38. D. Molteni, R. Bosisio, M. NICOLI, “Analytic framework for performance evaluation of multi-antenna WiMax systems over fading channel,” IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2008, pp. 3081-3084, Las Vegas, NV, USA, 31 March – 4 April 2008.
- C39. D. Molteni, M. NICOLI, R. Bosisio, L. Sampietro, “Performance analysis of multiantenna WiMax systems over frequency-selective fading channels,” IEEE 18th International Symposium on Personal, Indoor and Mobile Radio Communications, PIMRC 2007, pp. 1-5, Athens, Greece, 3-4 September 2007.
- C40. M. NICOLI, M. Sala, L. Sampietro, C. Santacesaria, O. Simeone, “Adaptive array processing for time-varying interference mitigation in IEEE 802.16,” IEEE 17th International Symposium on Personal, Indoor and Mobile Radio Communications, PIMRC 2006, pp. 1-5, Helsinki, Finland, 11-14 September 2006.
- C41. C. Morelli, M. NICOLI, V. Rampa, U. Spagnolini, C. Alippi, “Particle filters for RSS-based localization in wireless sensor networks: An experimental study,” IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2006, vol. 4, pp. 957-960, Toulouse, France, 14-19 May 2006.
- C42. S. Savazzi, M. NICOLI, M. Sternad, “Spatial multiplexing for outdoor MIMO-OFDM systems with limited feedback constraint,” IEEE International Conference on Communications, ICC 2006, vol. 1, pp. 73-78, Istanbul, Turkey, 11-15 June 2006.
- C43. M. NICOLI, C. Morelli, V. Rampa, U. Spagnolini, “HMM-based tracking of moving terminals in dense multipath indoor environments,” EURASIP 13th European Signal Processing Conference, EUSIPCO 2005, pp. 1-4, Antalya, Turkey, 4-8 September 2005.
- C44. M. NICOLI, U. Spagnolini, “A subspace method for channel estimation in soft-iterative receivers,” EURASIP 13th European Signal Processing Conference, EUSIPCO 2005, pp. 1-4, Antalya, Turkey, 4-8 September 2005.

- C45. R. Bosisio, M. NICOLI, U. Spagnolini, "Kalman filter of channel modes in time-varying wireless systems," IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2005, vol. 3, pp. 785-788, Philadelphia, PA, USA, 18-23 March 2005.
- C46. C. Morelli, M. NICOLI, V. Rampa, U. Spagnolini, "Hidden Markov models for radio localization of moving terminals in LOS/NLOS conditions," IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2005, vol. 4, pp. 877-880, Philadelphia, PA, USA, 18-23 March 2005.
- C47. O. Simeone, M. NICOLI, U. Spagnolini, "Subspace tracking for uplink/downlink array processing in CDMA systems," IEEE Global Telecommunications Conference, GLOBECOM 2003, pp. 824-828, vol. 2, San Francisco, CA, USA, 1-5 December 2003.
- C48. M. NICOLI, O. Simeone, U. Spagnolini, "A multi-slot method to estimate fast-varying channels in TD-CDMA systems," EURASIP XI European Signal Processing Conference, EUSIPCO 2002, vol. 3, pp. 635-638, Toulouse, France, 3-6 September 2002.
- C49. M. NICOLI, M. Sternad, U. Spagnolini, A. Ahlén, "Reduced-rank channel estimation and tracking in time-slotted CDMA systems," IEEE International Conference on Communications, ICC 2002, vol. 1, pp. 533-537, New York, NY, USA, 28 April – 2 May 2002.
- C50. M. NICOLI, U. Spagnolini, "Reducing the complexity of the space-time channel estimate at minimum risk," IEEE Vehicular Technology Conference, VTC Fall 2001, vol. 1, pp. 17-21, Atlantic City, NJ, USA, 7-11 October 2001.
- C51. M. Beretta, A. Colamonico, M. NICOLI, V. Rampa, U. Spagnolini, "Space-time multiuser detectors for TDD-UTRA: Design and optimization," IEEE Vehicular Technology Conference, VTC Fall 2001, vol. 1, pp. 375-379, Atlantic City, NJ, USA, 7-11 October 2001.
- C52. M. NICOLI, U. Spagnolini, "Reduced rank channel estimation and rank order selection for CDMA systems," IEEE International Conference on Communications, ICC 2001, vol. 9, pp. 2737-2741, Helsinki, Finland, 11-15 June 2001.
- C53. M. NICOLI, U. Spagnolini, "Adaptive-rank receiver for space-time DS-CDMA systems," IEEE Vehicular Technology Conference, VTC Spring 2001, vol. 1, pp. 78-82, Rhodes, Greece, 6-9 May 2001.
- C54. M. NICOLI, U. Spagnolini, "Multiuser space-time channel estimation for CDMA under reduced-rank constraint," IEEE Global Telecommunications Conference, GLOBECOM 2000, vol. 1, pp. 147-151, San Francisco, CA, USA, 27 November – 1 December 2000.
- C55. M. NICOLI, V. Rampa, U. Spagnolini, "Multitarget detection/tracking based on hidden Markov model," IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2000, vol. 5, pp. 3196-3199, Istanbul, Turkey, 5-9 June 2000.
- C56. N. Bienati, M. NICOLI, U. Spagnolini, "Non parametric methods for multidimensional wavefront estimation," IEEE International Conference on Geoscience and Remote Sensing, IGARSS 2000, vol. 2, pp. 705-707, Honolulu, HI, USA, 24-28 July 2000.

Non-indexed conferences

- C57. M. Brambilla, L. Combi, A. Matera, D. Tagliaferri, M. Nicoli, U. Spagnolini, "Cooperative beam tracking by multi-sensor data fusion in V2X networks," 1st Maritime Situational Awareness Workshop – MSAW 2019, NATO Science and Technology Organization Centre for Maritime Research and Experimentation (STO-CMRE), Poster, Lerici, La Spezia, Italy 8-10 October 2019.
- C58. S. Savazzi, V. Rampa, F. Vicentini, M. NICOLI, "RadioSense: Wireless Big Data for Collaborative Robotics in Smart Factory," CINI Workshop AI for Industrial Automation, March 18-19, Rome, Italy, p. 1-2.
- C59. S. Kianoush, S. Savazzi, V. Rampa, M. NICOLI, G. Soatti, U. Spagnolini, "Wireless Cloud Network for Augmented Communication and Sensing in 5G Massive Industrial IoT," International Balkan Conference on Communications and Networking, Podgorica, Montenegro, June 6-8, 2018, pp. 1-6. **Invited paper.**
- C60. Pascale, F. Deflorio, M. NICOLI, B. Dalla Chiara, M. Pedroli, "Typical speed profiles on motorways from floating vehicle data," Società Italiana Docenti di Trasporti, SIDT Scientific Seminar 2011, Energy, Environment and Innovation in Sustainable Transport Systems, pp. 1-16, Venezia, 6 October 2011.

- C61. A. Pascale, F. Deflorio, M. Pedrolì, M. NICOLI, B. Dalla Chiara, "Analysis of typical speed profiles from floating heavy vehicles," 2nd International Conference on Models and Technologies for ITS, MT-ITS 2011, pp. 1-4, Leuven, Belgium, 22-24 June 2011.
- C62. P. Castiglione, S. Savazzi, M. NICOLI, G. Matz, "Partner selection: Efficiency vs fairness in ricean environments," COST 2100 Meeting of the Management Committee, Document number TD(10)10020, pp. 1-6, Athens, Greece, February 3-5, 2010.
- C63. P. Castiglione, M. NICOLI, S. Savazzi, T. Zemen, "Impact of fading statistics on partner selection strategies in indoor-to-outdoor cooperative networks," COST 2100 Meeting of the Management Committee, Document number TD(09)902, pp. 1-7, Vienna, Austria, 28-30 September, 2009.
- C64. B. Moschini, M. NICOLI, U. Spagnolini, "A subspace method for soft estimation of block-fading channels in turbo equalization," COST 273 10th Meeting of the Management Committee, Document number TD(04)090, pp. 1-13, Gothenburg, Sweden, 7-10 June 2004.
- C65. M. NICOLI, O. Simeone, U. Spagnolini, "Multi-slot estimation of fast-varying space-time communication channels," COST 273 6th Meeting of the Management Committee, Document number TD(03)042, pp. 1-12, Barcelona, Spain, 15-17 January 2003.
- C66. M. NICOLI and D. Fontanella, "Accuracy limits for TOA cooperative localization," NEWCOM++ ACoRN Joint Workshop, pp. 1-5, Barcelona, Spain, 30 March – 1 April 2009.
- C67. S. Savazzi, U. Spagnolini, M. NICOLI, D. Fontanella, "Self-configuring wireless sensor networks for seismic applications," Joint Newcom++ – AcoRN Workshop, pp. 1-2, Barcelona, Spain, 30 March – 1 April 2009.
- C68. P. Castiglione, M. NICOLI, T. Zemen, "Performance Analysis of Coded Cooperation over Time-Variant Channels," Joint Newcom++ – AcoRN Workshop, pp. 1-5, Barcelona, Spain, 30 March – 1 April, 2009.
- C69. M. NICOLI, L. Sampietro, C. Santacesaria, U. Spagnolini, D. Archetti, A. Bonfanti, M. Sala, "Deployment and design of multiantenna solutions for fixed WiMax systems," 8th European Conference on Fixed Wireless Networks and Technologies, ECRR 2007, pp. 1-7, Paris, France, 3-5 April 2007.
- C70. M. NICOLI, L. Sampietro, C. Santacesaria, S. Savazzi, O. Simeone, U. Spagnolini, "Throughput optimization for non-uniform linear antenna arrays in multicell WiMAX systems," IEEE/ITG Workshop on Smart Antennas, WSA 2006, pp. 1-8, Reims, Germany, 13-14 March 2006.
- C71. S. Ferrara, M. NICOLI, U. Spagnolini, "Soft-iterative estimation of structured channels: performance analysis and comparison," International Workshop on Convergent Technologies, IWCT 2005, pp. 1-5, Oulu, Finland, 9-10 June 2005.
- C72. Bifano, A. Colamonico, M. NICOLI, V. Rampa, U. Spagnolini, "Sliding windows multiuser detectors for TD-SCDMA system," European Microwave Week, European Conference on Wireless Technology, ECWT 2002, Sessione E3, pp. 1-4, Milano, 26-27 September 2002.
- C73. M. Aldrovrandi, M. NICOLI, O. Simeone, U. Spagnolini, "Subspace-based methods for channel estimation in the TD-SCDMA system," European Microwave Week, European Conference on Wireless Technology, ECWT 2002, Sessione E6, pp. 1-4, Milano, 26-27 September 2002.
- C74. N. Bienati, M. NICOLI, U. Spagnolini, "Horizon picking for multidimensional data: an integrated approach," 6th International Congress of the Brazilian Geophysical Society, SEG Meeting, paper n. SBGf359, pp. 1-4, Rio de Janeiro, Brazil, 15-19 August 1999.
- C75. N. Bienati, M. NICOLI, U. Spagnolini, "Automatic horizon picking algorithms for multidimensional data," 61st European Association of Geoscientists and Engineers Meeting, EAGE 1999, vol. 1, paper n. 6-30, pp. 1-4, Helsinki, Finland, 7-11 June 1999.

Patents

- E1. M. Nicoli, L. Barbieri, V. Boffa, S. Mervic, A. Trabattoni, "Metodo per gestire lo stoccaggio di elementi posizionati su raccoglitori e sistema di gestione di elementi posizionati su raccoglitori", Patent n. 102019000023892, 2019.
- E2. U. Spagnolini, M. Nicoli, S. Savaresi, G. Panzani, "System and method for sensor aided beamforming", Patent n. 102019000004009, filing date 20/03/2019.

- E3. C. Santacesaria, L. Sampietro, U. Spagnolini, M. NICOLI, O. Simeone, “Method to improve the channel estimate in broadband SIMO/MIMO cellular radio networks during abrupt interference variations”, Patent n. EP1821445 A1, application n. EP 06425094.7 filing date 16/02/2006, int. cl. H04L1/06 H04B7/08 H04L25/02, owner Siemens S.p.A.
- E4. C. Santacesaria, L. Sampietro, U. Spagnolini, M. NICOLI, O. Simeone, S. Savazzi, “Method for optimizing the spacing between receiving antennas of an array usable for counteracting both interference and fading in cellular systems”, Patent n. EP 1826872 A1, application n. EP 06425093.9 filing date 16/02/2006, int. cl. H01Q21/08 H01Q21/22, owner Siemens S.p.A.
- E5. L. Moretti, M. NICOLI, U. Spagnolini, O. Simeone, “Method for the estimation and tracking of channel modes in multicarrier communication systems”, Application n. EP 03425721.2 filing date 05/11/2003, owner Siemens Mobile Communications S.p.A.
- E6. M. NICOLI, O. Simeone, U. Spagnolini, M. Aldrovrandi, “Method and device for channel estimation in digital radio communication systems”, Patent n. EP1357714 A1, Application n. EP 02425260.3 filing date 23/04/2002, int. cl. H04L25/02 H04L27/26 H04B1/707 US2004/0008803-A1, owner Siemens Information and Communication Networks S.p.A. / Siemens Mobile Communications S.p.A.
- E7. V. Del Bello, M. NICOLI, U. Spagnolini, “Estimation of a plurality of channels in a diversity receiver” (titolo originale “Variable complexity space-time channel estimation and receiver for mobile communication systems”), Patent n. EP1255387-A1, Application n. EP 01830291.9 filing date 04/05/2001, int. cl. H04L25/02, owner Siemens Information and Communication Networks S.p.A. / Siemens Mobile Communications S.p.A.

Theses

- D1. M. NICOLI, Multi-user Reduced Rank Receivers for TD/CDMA Systems, PhD Thesis, PhD in Electronic and Communication Engineering, Politecnico di Milano, December 2001.
- D2. M. NICOLI, Time horizons Estimation in N-dimensional Seismic Dataset, PhD Minor Research Thesis, PhD in Electronic and Communication Engineering, Politecnico di Milano, October 2000.
- D3. M. NICOLI, Detection and Tracking of Multiple Time Horizon in Seismic, MSc Thesis in Telecommunication Engineering, Politecnico di Milano, July 1998.

Milano, February 27th, 2021