

Dario Sabella



Short bio

Dario Sabella received his Dr. Eng. Degree in Electronics Engineering from Politecnico di Torino, Italy, in 2002. After graduation, he joined the research center of TIM (Telecom Italia group), being involved in several R&D projects targeting future generation communications. In 2004 he received an additional post-degree specialization Master in Telecommunications. Then he worked in the Wireless Access Innovation division, as responsible in various TIM research activities for the study of OFDMA technologies (WiMAX, 3GPP LTE and LTE-A); he worked also in FP7 and H2020 European projects (EARTH, ARTIST4G, iJOIN, Flex5Gware). From 2015 he served as Vice Chairman of ETSI MEC (Mobile Edge Computing) IEG, and from February 2017 he's working with INTEL as Senior Research and Standards engineer. Author of several publications (40+) and patents (20+) in the field of wireless communications, radio resource management, energy efficiency and edge computing, Dario has also organized several international workshops and conferences (he's co-founder and chairman of the CLEEN workshops series). From 2017, Dario is also Intel's delegate of the 5GAA (5G Automotive Association), MEC Secretary and Lead of Industry Groups.

Selected Publications

1. 2011 – **Publications** - Article in magazines, journals
G. Auer, V. Giannini, C. Desset, I. Godor, P. Skillermark, M. Olsson, M.A.Imran, D. SABELLA, M.J. Gonzalez, O. Blume, A.Fehske; "How much energy is needed to run a wireless network?", IEEE Wireless Communications Magazine 2011; Date of Publication: October 2011; Volume: 18, Issue: 5; Page(s): 40 – 49; Product Type: Journals & Magazines; ISSN : 1536-1284
http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=6056691&url=http%3A%2F%2Fieeexplore.ieee.org%2Fxppls%2Fabs_all.jsp%3Farnumber%3D6056691
2. 2011 – **Publications** - Articles in magazines, journals
Caretto M, Cicconetti C, Franceschini D, Lenzini L, Migliorini D, Mingozi E, Rossi R, Sabella D (2011). Efficient downlink scheduling with power boosting in mobile IEEE 802.16 networks. COMPUTER NETWORKS, Volume 55 Issue 8, June, 2011, p. 1672-1683, ISSN: 1389-1286, doi: 10.1016/j.comnet.2010.12.022

3. 2010 - **Publications** - Contribution in congresses, workshops and conferences
Matteo Maria Andreozzi, Giovanni Stea, DARIO SABELLA, "Optimal MOS-based scheduling of downlink voice flows in point-to-multipoint access networks", World of Wireless Mobile and Multimedia Networks (WoWMoM), 2010 IEEE International Symposium; Date of Conference: 14-17 June 2010; Page(s): 1 – 6; IEEE Computer Society, ISBN: 978-1-4244-7264-2, doi: 10.1109/WOWMOM.2010.5534961. Product Type: Conference Publications
<http://ieeexplore.ieee.org/xpl/articleDetails.jsp?reload=true&arnumber=5534961&contentType=Conference+Publications>
4. 2011 - **Publications** - Contribution in congresses, workshops and conferences
Roberto Fantini, DARIO SABELLA, Marco Caretti. "Energy efficiency in LTE-Advanced networks with Relay Nodes", Vehicular Technology Conference (VTC Spring), 2011 IEEE 73rd; 15-18 May 2011, Pages: 1 – 5; Product Type: Conference Publications. ISSN: 1550-2252
http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=5956555&url=http%3A%2F%2Fieeexplore.ieee.org%2Fxppls%2Fabs_all.jsp%3Farnumber%3D5956555
5. 2011 - **Publications** - Contribution in congresses, workshops and conferences
DARIO SABELLA, Marco Caretti, Roberto Fantini "Energy Efficiency Evaluation of State of the Art Packet Scheduling algorithms for LTE", Wireless Conference 2011 - Sustainable Wireless Technologies (European Wireless), 11th European; Data della Conferenza: 27-29 Aprile 2011; Pages: 1 – 4; Product Type: Conference Publications; Print ISBN: 978-3-8007-3343-9
http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=5898063&url=http%3A%2F%2Fieeexplore.ieee.org%2Fxppls%2Fabs_all.jsp%3Farnumber%3D5898063
6. 2011 - **Publications** - Contribution in congresses, workshops and conferences
G. Auer, V. Giannini, I. Godor, P. Skillermark, M. Olsson, M.A. Imran, D. SABELLA, M.J. Gonzalez, C. Desset, O. Blume, "Cellular Energy Efficiency Evaluation Framework", Vehicular Technology Conference (VTC Spring), 2011 IEEE 73rd; Date of Conference: 15-18 May 2011; Page(s): 1 – 6; Product Type: Conference Publications; ISSN : 1550-2252
http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=5956750
7. 2011 - **Publications** - Contribution in congresses, workshops and conferences
Roberto Fantini, DARIO SABELLA, Marco Caretti, "An E3F based assessment of energy efficiency of Relay Nodes in LTE-Advanced networks", Personal Indoor and Mobile Radio Communications (PIMRC), 2011 IEEE 22nd International Symposium; Date of Conference: 11-14 Sept. 2011; Page(s): 182 – 186; Product Type: Conference Publications; E-ISBN : 978-1-4577-1347-7;
http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=6139824&url=http%3A%2F%2Fieeexplore.ieee.org%2Fxppls%2Fabs_all.jsp%3Farnumber%3D6139824
8. 2012 - **Publications** - Contribution in congresses, workshops and conferences
DARIO SABELLA, Marco Caretti, William Tomaselli, Valerio Palestini, Bruno Cendón, Javier Valino, Arturo Medela, Yolanda Fernández and Luis Sanchez, "Evaluation of ON-OFF Schemes and Linear Prediction Methods for Increasing Energy Efficiency in Mobile Broadband Networks", NETWORKING 2012 Workshops, Lecture Notes in Computer Science, 2012; Volume 7291/2012, 27-34, DOI: 10.1007/978-3-642-30039-4_4; Book title "NETWORKING 2012 Workshops"; Book subtitle: "International IFIP TC 6 Workshops, ETICS, HetsNets, and CompNets, Held at NETWORKING 2012, Prague, Czech Republic, May 25, 2012. Proceedings", Publisher: Springer Berlin Heidelberg; Volume 7291/2012, pages 27-34, ISBN 978-3-642-30038-7; link: http://rd.springer.com/chapter/10.1007/978-3-642-30039-4_4
9. 2012 - **Publications** - Contribution in congresses, workshops and conferences
C.Desset, B.Debaille, V.Giannini, A.Fehske, G.Auer; H.Holtkamp, W.Wajda, D.SABELLA, F.Richter, M.J.Gonzalez, H.Klessig, I.Godor, M.Olsson, M.A.Imran, A.Ambrosy, O.Blume "Flexible power modeling of LTE base stations", Wireless Communications and Networking Conference (WCNC), 2012 IEEE; Date of Conference: 1-4 April 2012; Page(s): 2858 – 2862; ISSN : 1525-3511;

<http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=6214289&url=http%3A%2F%2Fieeexplore.ieee.org%2Fiel5%2F6209058%2F6213907%2F06214289.pdf%3Farnumber%3D6214289>

10. 2012 - **Publications** - Contribution in congresses, workshops and conferences
Yinan Qi, Muhammad Ali, Imran, DARIO SABELLA, Björn Debaillie, Roberto Fantini, and Yolanda Fernandez, "Deployment Opportunities for Increasing Energy Efficiency in LTE-Advanced with Relay Nodes", Wireless World Research Forum 2012; Berlino (Germany), 23-25 Ottobre 2012.
11. 2012 - **Publications** - Contribution in books, chapters, volumes
Istvan Godor, Pal Frenger, Oliver Blume, Hauke Holtkamp, Muhammad Imran, Attila Vidacs, Peter Fazekas, Dario Sabella, Emilio Calvanese Strinati, Rohit Gupta, Pekka Pirinen, Albrecht Fehske; "Green Communications: Theoretical Fundamentals, Algorithms and Applications", book chapter on "Green Wireless Access Networks"; Publisher: CRC Press; 1 edition (September 20, 2012); Language: English; ISBN-10: 1466501073; ISBN-13: 978-1466501072
http://www.amazon.com/Green-Communications-Theoretical-Fundamentals-Applications/dp/1466501073/ref=sr_1_1?ie=UTF8&qid=1349753032&sr=8-1&keywords=Green+Communications%3A+Theoretical+Fundamentals
12. 2010 - **Publications** - Curatela:
Hauke Holtkamp, Anton Ambrosy, Dario Sabella (a cura di). Definition and parameterization of reference system and scenarios, EARTH project deliverable D2.2, <https://www.ict-earth.eu/publications/deliverables/deliverables.html>
13. 2010 - **Publications** - Curatela:
Muhammad Ali Imran, Efstathios Katranaras, Dario Sabella (a cura di). Energy efficiency analysis of the reference systems, areas of improvements and target breakdown, EARTH project deliverable D2.3, <https://www.ict-earth.eu/publications/deliverables/deliverables.html>
14. 2010 - **Publications** - Curatela:
István Gódor, Dario Sabella (a cura di). Most Promising Tracks of Green Network Technologies, EARTH project deliverable D3.1, <https://www.ict-earth.eu/publications/deliverables/deliverables.html>
15. 2011 - **Publications** - Curatela:
Jose Alonso-Rubio, Péter Fazekas, Per Skillermark, Wieslawa Wajda, Dario Sabella (a cura di). Most suitable efficiency metrics and utility functions, EARTH project deliverable D2.4, <https://www.ict-earth.eu/publications/deliverables/deliverables.html>
16. 2011 - **Publications** - Curatela
Fabien Héliot, Dario Sabella (a cura di). Green Network Technologies, EARTH project deliverable D3.2, <https://www.ict-earth.eu/publications/deliverables/deliverables.html>
17. 2011 - **Publications** - Curatela
István Gódor, Dario Sabella (a cura di). Final Report on Green Network Technologies, EARTH project deliverable D3.3, <https://www.ict-earth.eu/publications/deliverables/deliverables.html>
18. 2011 - **Publications** - Curatela:
Valeria D'Amico, Jochen Giese, Dario Sabella (a cura di). Innovative scheduling and cross-layer design techniques for interference avoidance, ARTIST4G project deliverable D1.3, <https://ict-artist4g.eu/projet/deliverables>
19. 2012 - **Publications** - Curatela:
Magnus Olsson, Dario Sabella (a cura di). Draft Integrated Solutions, EARTH project deliverable D6.2b, <https://www.ict-earth.eu/publications/deliverables/deliverables.html>
20. 2013 - **Publications** - Contribution in congresses, workshops and conferences
DARIO SABELLA, Marco Caretti, Giovanni Stea, Daniele Migliorini. "Power-aware allocation of MBSFN subframes using Discontinuous Cell Transmission in LTE systems", First International Workshop on Cloud Technologies and Energy Efficiency in Mobile Communication Networks (CLEEN 2013), 2-5 September 2013, co-located with Vehicular Technology Conference (VTC Fall), 2013 IEEE 78th, Page(s): 1 - 5, ISSN : 1090-3038, DOI:10.1109/VTCFall.2013.6692373

21. 2013 - **Publications** - Contribution in congresses, workshops and conferences
DARIO SABELLA, Peter ROST, Yngli SHENG, Emmanouil PATEROMICHELAKIS, Umer SALIM, Patricia GUITTON-OUHAMOU, Marco DI GIROLAMO, Giovanni GIULIANI. "RAN as a Service: Challenges of designing a flexible RAN architecture in a cloud-based heterogeneous mobile network", Future Network And mobile Summit 2013, July 3-5, 2013, Lisbon (Portugal),
22. 2013 - **Publications** - Curatela:
Dario Sabella (author and reviewer) et al: "Revised definition of requirements and preliminary definition of the iJOIN architecture", iJOIN project deliverable D5.1, <http://www.ict-ijoin.eu/wp-content/uploads/2014/01/D5.1.pdf>
23. 2013 - **Publications** - Contribution in congresses, workshops and conferences
William Tomaselli, Valter Squizzato, DARIO SABELLA Valerio Palestini, Valerio Bernasconi: "Energy efficiency performances of selective switch OFF algorithm in LTE mobile networks", PIMRC 2013, IEEE 24th International Symposium on Personal Indoor and Mobile Radio Communications, 8-11 Sept. 2013, London (United Kingdom), Page(s): 3254 – 3258, ISSN : 2166-9570, DOI:10.1109/PIMRC.2013.6666708
24. 2013 - **Publications** - Contribution in congresses, workshops and conferences
M. Olsson, C. Cavdar, P. Frenger, S. Tombaz, DARIO SABELLA, R. Jantti: "5GrEEen: Towards Green 5G Mobile Networks", 2013 IEEE 9th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob), Lyon, 7-9 Oct. 2013, Page(s): 212 – 216, ISSN : 2160-4886, DOI:10.1109/WIMOB.2013.6673363
25. 2014 - **Publications** - Article in magazines, journals
Peter Rost, Carlos Bernardos, Antonio De Domenico, Marco Di Girolamo, Massinissa Lalam, Andreas Maeder, DARIO SABELLA, Dirk Wübben: "Cloud Technologies for Flexible 5G Radio Access Networks", Communications Magazine, IEEE, 5G Special Issue, vol.52, no.5, Page(s): 68-76, May 2014, ISSN : 0163-6804, DOI:10.1109/MCOM.2014.6898939
26. 2013 - **Publications** - Contribution in congresses, workshops and conferences
DARIO SABELLA, Marco Caretti, Roberto Fantini: "Energy Saving schemes for self-backhauled small cells in LTE-Advanced networks", Second International Workshop on Cloud Technologies and Energy Efficiency in Mobile Communication Networks (CLEEN 2014), co-located with IEEE WCNC 2014, April 6, 2014, Istanbul (Turkey), Page(s): 23 – 28, DOI:10.1109/WCNCW.2014.6934855
27. 2014 - **Publications** - Contribution in congresses, workshops and conferences
Giovanni Nardini, Giovanni Stea, Antonio Virdis, Marco Caretti, DARIO SABELLA: "Improving network performance via optimization based centralized coordination of LTE-A cells", Second International Workshop on Cloud Technologies and Energy Efficiency in Mobile Communication Networks (CLEEN 2014), IEEE WCNC 2014, April 6, 2014, Istanbul (Turkey), Page(s): 18 – 22, DOI:10.1109/WCNCW.2014.6934854
28. 2014 - **Publications** - Contribution in congresses, workshops and conferences
Giovanni Nardini, Giovanni Stea, Antonio Virdis, DARIO SABELLA, Marco Caretti: "Effective dynamic coordinated scheduling in LTE-Advanced networks", 2014 European Conference on Networks and Communications, EUCNC 2014, Bologna (Italy), June 23-26, 2014, Page(s): 1 – 5, DOI:10.1109/EuCNC.2014.6882642
29. 2014 - **Publications** - Article in magazines, journals
DARIO SABELLA, A. De Domenico, E. Katranaras, M. Imran, M. Di Girolamo, U. Salim, M. Lalam, K. Samdanis, A. Maeder: "Energy Efficiency benefits of RAN-as-a-Service concept for a cloud-based 5G mobile network infrastructure", IEEE Access, vol.2, December 2014, Page(s): 1586 – 1597, Date of Publication : 18 dicembre 2014, ISSN : 2169-3536, DOI:10.1109/ACCESS.2014.2381215
30. 2015 - **Publications** - Contribution in congresses, workshops and conferences
Damiano Rapone, DARIO SABELLA, Maurizio Fodrini: "Energy Efficiency solutions for the Mobile Network evolution toward 5G: an operator perspective", The Fourth IFIP Conference on Sustainable Internet and ICT for Sustainability, SustainIT2015 (Madrid, April 15, 2015), <http://www.networks.imdea.org/sustainit2015/t-program.html>
31. 2015 - **Publications** - Article in magazines, journals

- Giovanni Nardini, Giovanni Stea, Antonio Viridis, DARIO SABELLA, Marco Caretti: "Practical large-scale coordinated scheduling in LTE-Advanced networks", Springer, Wireless Networks, 23 April 2015, DOI10.1007/s11276-015-0948-6, Print ISSN1022-0038, Online ISSN1572-8196
32. 2015 - **Publications** - Contribution in congresses, workshops and conferences
DARIO SABELLA, Peter Rost, Albert Banchs, Valentin Savin, Marco Consonni, Marco Di Girolamo, Massinissa Lalam, Andreas Maeder, Ignacio Berberana: "Benefits and challenges of cloud technologies for 5G architecture", VTC 2015-Spring, First International Workshop on 5G Architecture (5GArch 2015), 11 May 2015, Glasgow (UK), Link: http://www.ieeevtc.org/vtc2015spring/workshops.php#wkshp_4
 33. 2016 - **Publications** - Article in magazines, journals
Miquel Payaró, Michael Färber, Panagiotis Vlacheas, Nikolaos G. Bartzoudis, Fredrik Tillman, Dieter Ferling, Vincent Berg, Tapio Rautio, Pablo Serrano, DARIO SABELLA: Flex5Gware: Flexible and efficient hardware and software platforms for 5G network elements and devices. Trans. Emerging Telecommunications Technologies 27(9): 1242-1249 (2016)
 34. 2016 - **Publications** - Article in magazines, journals
Giovanni Nardini, Giovanni Stea, Antonio Viridis, DARIO SABELLA, Marco Caretti: Practical large-scale coordinated scheduling in LTE-Advanced networks. Wireless Networks 22(1): 11-31 (2016)
 35. 2016 - **Publications** - Contribution in congresses, workshops and conferences
Niccolo Iardella, Giovanni Stea, Antonio Viridis, Dario Sabella, Antonio Frangioni: Statistically Sound Experiments with OpenAirInterface Cloud-RAN Prototypes - CLEEN 2016. CrownCom 2016: 754-766
 36. 2016 - **Publications** - Contribution in congresses, workshops and conferences
Giovanni Nardini, Giovanni Stea, Antonio Viridis, Dario Sabella, Marco Caretti: Fast and Agile Lossless Mode Switching for D2D Communications in LTE-Advanced Networks. VTC Spring 2016: 1-5
 37. 2015 - **Publications** - Contribution in congresses, workshops and conferences
Antonio Viridis, Niccolo Iardella, Giovanni Stea, Dario Sabella:
Performance Analysis of OpenAirInterface System Emulation. FiCloud 2015: 662-669
 38. 2015 - **Publications** - Contribution in congresses, workshops and conferences
Damiano Rapone, Dario Sabella, Maurizio Fodrini: Energy efficiency solutions for the mobile network evolution towards 5G: an operator perspective. SustainIT 2015: 1-9
 39. 2016 - **Publications** - Book chapters
DARIO SABELLA, Damiano Rapone, Maurizio Fodrini, Cicek Cavdar, Magnus Olsson, Pal Frenger, Sibel Tombaz: "Energy Management in Mobile Networks Towards 5G", Book chapter of "Energy Management in Wireless Cellular and Ad-hoc Networks", Volume 50 of the series Studies in Systems, Decision and Control pp 397-427
 40. 2016 - **Publications** - whitepapers
YunChao Hu, Milan Patel, Dario Sabella, Nurit Sprecher, Valerie Young: "Mobile Edge Computing A key technology towards 5G", ETSI White Paper, 1st edition Sept 2015, ISBN No. 979-10-92620-08-5, http://www.etsi.org/images/files/ETSIWhitePapers/etsi_wp11_mec_a_key_technology_towards_5g.pdf
 41. 2016 - **Publications** - Article in magazines, journals
DARIO SABELLA et al.: "Mobile-Edge Computing Architecture: The role of MEC in the Internet of Things", IEEE Consumer Electronics Magazine, 2016
 42. 2017 - **Publications** - Article in conferences and workshops
DARIO SABELLA, et al.: "A flexible and reconfigurable 5G networking architecture based on context and content information", IEEE EuCNC 2017; link: <http://ieeexplore.ieee.org/document/7980669/>
 43. 2017 - **Publications** - Article in conferences and workshops
DARIO SABELLA, Yang Yang: "Mobile Network Energy Efficiency Optimization in MIMO Multi-Cell Systems", IEEE CLEEN 2017; link: <http://ieeexplore.ieee.org/document/8045913/>
 44. 2017 - **Publications** - Article in conferences and workshops

- N. Iardella, G. Nardini, G. Stea, A. Viridis, A. Frangioni, L. Galli, DARIO SABELLA, F. Mauro, G. Dell'Aera, M. Caretti: "A testbed for flexible and energy-efficient resource management with virtualized LTE-A nodes", IEEE CLEEN 2017; link: <http://ieeexplore.ieee.org/document/8045910/>
45. 2017 - **Publications** - Article in conferences and workshops
G. Nardini, G. Stea, A. Viridis, A. Frangioni, L. Galli, DARIO SABELLA, G. M. Dell'Aera: "Scalability and energy efficiency of Coordinated Scheduling in cellular networks towards 5G", IEEE CLEEN 2017; link: <http://ieeexplore.ieee.org/document/8045909/>
46. 2017 - **Publications** - Article in magazines, journals
A. Viridis, G. Stea, DARIO SABELLA and Marco Caretti: "A Practical Framework for Energy-Efficient Node Activation in Heterogeneous LTE Networks", HINDAWI, Mobile Information Systems Volume 2017; link: <https://www.hindawi.com/journals/misy/2017/2495934/>
47. 2017 - **Publications** - Article in conferences and workshops
N. Iardella, G. Nardini, G. Stea, A. Viridis, A. Frangioni, L. Galli, DARIO SABELLA, F. Mauro, G. Dell'Aera, M. Caretti: "Flexible dynamic coordinated scheduling in virtual-RAN deployments", IEEE ICC 2017; link: <http://ieeexplore.ieee.org/document/7962645/>
48. 2017 - **Publications** - Article in conferences and workshops
T. Taleb et al.: "On Multi-Access Edge Computing: A Survey of the Emerging 5G Network Edge Cloud Architecture & Orchestration", IEEE Communications Surveys and Tutorials Journal, 2017; link: <http://ieeexplore.ieee.org/document/7931566/>
49. 2017 - **Publications** - white papers
DARIO SABELLA et al.: "Toward fully connected vehicles: Edge computing for advanced automotive communications", 5GAA white paper, December 2017, link: <http://5gaa.org/news/toward-fully-connected-vehicles-edge-computing-for-advanced-automotive-communications/>
50. 2017 - **Publications** - white papers
5G Americas white paper: "5G Services and Use Cases white paper", November 2017, link: www.5gamericas.org/files/9615/1217/2471/5G_Service_and_Use_Cases_FINAL.pdf
51. 2018 - **Publications** - Book chapters
P. Marsch et al.: book chapter "Implementation of 5G Hardware and Software Platforms" in Book "5G System Design - Architectural and Functional Considerations and Long Term Research"; 2017, Wiley; to appear;
52. 2018 - **Publications** - Article in magazines, journals
DARIO SABELLA et al.: "Designing the 5G Network Infrastructure: a Flexible and Reconfigurable Architecture Based on Context and Content Information", EURASIP Journal on Wireless Communications and Networking, to appear
53. 2018 - **Publications** - Article in conferences and workshops
Mustafa Emara, Militiadis Filippou, DARIO SABELLA: "MEC-aware Cell Association for 5G Heterogeneous Networks", WCNC 2018, to appear;
54. 2018 - **Publications** - Article in magazines, journals
A. Viridis et al.: "Practical feasibility, scalability and effectiveness of coordinated scheduling algorithms in cellular networks towards 5G", Journal of Network and Computer Applications, Elsevier, 2018, to appear
55. 2017 - **Publications** - white papers
"Developing Software for Multi-access Edge Computing", ETSI MEC white paper, September 2017, link: http://www.etsi.org/images/files/ETSIWhitePapers/etsi_wp20_MEC_SoftwareDevelopment_FINAL.pdf