

Curriculum Vitae

Personal information

First name / Surname

Address

Contacts

Stefano D'Elia

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Work experience

Dates

Occupation or position held

Main activities and responsibilities

January 2015 – present

Mobile Access Integrated Solutions & Cross-Country Harmonization Manager, Vodafone Networks, Network Strategy & Engineering

- Coordination of all major projects in the radio access engineering domain (NB IoT, network sharing projects, energy management). Management of an international team of approx. 10 engineers based in different EU countries.
- Technical management of antennas, passives, repeaters and DAS, including testing and acceptance at Group level.
- Management of Electro Magnetic fields (EMF) compliance and other regulatory issues. Member of the EMF Leadership Team at Group level, EMF Leader in Vodafone Italy, participating to Vodafone Italy Board for periodical updates on EMF.
- Part of the winning bid team for the competitive tender for 5G trial in Milan in 2017, defining the best and most complete proposal (technical solution and a rich set of 5G use cases).
- Technical lead for Narrow Band IoT introduction and launch in 2018
- "Skylon" project (creation of Vantage Towers) in 2018-2020: lead of the 'Technical Due Diligence' stream, technical preparation for the demerger in the markets, and contribution to the definition of the main aspects of Master Service Agreement (MSA),

Dates

Occupation or position held

Dates

Occupation or position held

Main activities and responsibilities

November 2013 – December 2014

Mobile Access Regional Execution Manager, South Europe

September 2012 – October 2013

Regional RAN Strategy & Solutions Manager, South Europe

Within the Network Engineering / Mobile Access team of the Southern Europe Region (including Italy, Greece, Romania, Spain, Portugal, Albania and Malta), management of a team of engineers based in Italy, Spain, Greece and Romania. Mid-long term financial and technical planning activities for the Radio Access Network domain. Design and engineering of all dedicated radio coverage solutions (including femtocells, small cells, radio and optical repeaters, passive equipment) and special projects (e.g. High-Speed Train radio coverage). Supervision of all developments in the area of electromagnetic fields (EMF) compliance and regulatory issues, contributing to the definition of policies, campaigns and projects related to EMF, and managing other regulatory issues related to the RAN domain.

Name and address of employer

Type of business or sector

Vodafone, Ivrea (TO), Italy

Telecommunication, Mobile Operator

Dates	November 2011 – August 2012
Occupation or position held	RAN Equipment & EMF Manager, Italy
Main activities and responsibilities	Within the Network Engineering / Radio Access Network (RAN) team in Vodafone Italy, management of a team in charge of the hardware functional specifications and guidelines for GSM/UMTS/LTE base stations, repeaters, femtocells and microwave equipments, ensuring technical innovation and evolution, and driving vendor selection activities and new wireless systems developments. Supervision of all developments on electromagnetic fields (EMF) compliance and regulatory issues, contributing to the definition of policies, campaigns and projects related to EMF.
Name and address of employer	Vodafone Italy, Ivrea (TO), Italy
Type of business or sector	Telecommunication, Mobile Operator
Dates	January 2003 – October 2011
Occupation or position held	EMF Manager, Italy
Main activities and responsibilities	Within the Network Engineering / Radio Access Network team in Vodafone Italy, the Electro Magnetic Fields (EMF) Team had the mission to develop guidelines on electromagnetic fields compliance of network elements and terminals, and on the relationships with Local Environmental Authorities (ARPA). This includes supervising all developments and impacts on engineering design in the area of EMF compliance and regulatory issues, and monitoring all other aspects related to EMF exposure.
Name and address of employer	Vodafone Italy, Ivrea (TO), Italy
Type of business or sector	Telecommunication, Mobile Operator
Dates	January 2001 – December 2002
Occupation or position held	Environment project manager
Main activities and responsibilities	In the team ' <i>Public Administration Projects, Telecommunication Security and Environment</i> ', supervising environmental initiatives within Network, supporting Institutional and Media Relations teams in their dialogue with the Public Administrations.
Name and address of employer	Omnitel Pronto Italia, Ivrea (TO), Italy
Type of business or sector	Telecommunication, Mobile Operator
Dates	February 1998 – December 2000
Occupation or position held	RF Engineer
Main activities and responsibilities	In the Radio Frequency head-quarter, development of guidelines on antenna systems and compliance assessment with electromagnetic fields exposure limits (guidelines on calculation and measurements).
Name and address of employer	Omnitel Pronto Italia, Ivrea (TO), Italy
Type of business or sector	Telecommunication, Mobile Operator
Dates	March 1997 – January 1998
Occupation or position held	OSS Specialist
Main activities and responsibilities	Consultant in Ericsson (Rome): acceptance, testing and roll-out of OSS systems (OMC, NMC) for the GSM network of Telecom Italia Mobile
Name and address of employer	SIA S.r.l., Rome, Italy
Type of business or sector	Telecommunication, Mobile networks, Consulting
Awards and Recognitions	
Dates	March 2012
Award	Awarded <i>Vodafone Distinguished Engineer</i> , one of the higher steps in the Technical Leadership Career Path across Vodafone Technology: recognised within Vodafone, nationally in Italy, and globally in the area of Electro Magnetic Fields (EMF) compliance and management.

**Main publications
(English language)**

- "Methodology based on Vector and Scalar Measurement of Traffic Channel Power Levels to Assess Maximum Exposure to Electromagnetic Radiation generated by 5G NR Systems", Sara Adda, Tommaso Aureli, Sergio Bastonero, Stefano D'Elia, Daniele Franci, Enrico Grillo, Marco Donald Migliore, Nicola Pasquino, Settimio Pavoncello, Fulvio Schettino, Andrea Schiavoni, Renato Scotti, Riccardo Suman, Mattia Vaccarone, IEEE Access, vol. 10, pp. 12125-12136, January 2022 (<https://ieeexplore.ieee.org/document/9690179>).
- "A New Paradigm in 5G Maximum Power Extrapolation for Human Exposure Assessment: Forcing gNB Traffic Toward the Measurement Equipment", Marco Donald Migliore, Daniele Franci, Settimio Pavoncello, Enrico Grillo, Tommaso Aureli, Sara Adda, Riccardo Suman, Stefano D'Elia, Fulvio Schettino, IEEE Access, vol. 9, pp. 101946-101958, July 2021 (<https://ieeexplore.ieee.org/document/9465804>).
- "A Methodology to Characterize Power Control Systems for Limiting Exposure to Electromagnetic Fields Generated by Massive MIMO Antennas", Sara Adda, Tommaso Aureli, Stefano Coltellacci, Stefano D'Elia, Daniele Franci, Enrico Grillo, Nicola Pasquino, Settimio Pavoncello, Riccardo Suman, Mattia Vaccarone, IEEE Access, vol. 8, pp. 171956-171967, September 2020 (<https://ieeexplore.ieee.org/document/9200351>).
- "A Theoretical and Experimental Investigation on the Measurement of the Electromagnetic Field Level Radiated by 5G Base Stations", Sara Adda, Tommaso Aureli, Stefano D'Elia, Daniele Franci, Enrico Grillo, Marco Donald Migliore, Settimio Pavoncello, Fulvio Schettino, Riccardo Suman, IEEE Access, vol. 8, pp. 101448 – 101463, May 2020 (<https://ieeexplore.ieee.org/document/9103530>).
- "EMF evaluations for future networks based on Massive MIMO", Samuela Persia, Claudia Carciofi, Stefano D'Elia, Riccardo Suman, IEEE 29th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Bologna, Italy, September 9th-12th 2018, Proceedings (<https://ieeexplore.ieee.org/document/8580893>).
- "Modelling Energy Consumption of Mobile Radio Networks: An Operator Perspective", A. Capone, S. D'Elia, I. Filippini, A. Redondi, M. Zangani, IEEE Wireless Communications, vol. 24, no. 4, pp. 120 -126, August 2017 (<https://ieeexplore.ieee.org/document/7864818>).
- "Measurement-based energy consumption profiling of mobile radio networks", A. Capone, S. D'Elia, I. Filippini, M. Zangani, IEEE 1st International Forum on Research and Technologies for Society and Industry (RTSI 2015), Torino, Italy, September 16th-18th 2015, Proceedings (<https://ieeexplore.ieee.org/abstract/document/7325082> and <https://re.public.polimi.it/retrieve/handle/11311/965261/52939/RTSI2015-3.pdf>).
- "Femtocells installed in corporate and enterprise premises: An operator's perspective", S. D'Elia, M. Zangani, A. Casto, D. Etere, R. Marfisi, IEEE Networks 2012, XVth International Telecommunications Network Strategy and Planning Symposium, Rome, Italy, October 15th-18th 2012, Proceedings (<https://ieeexplore.ieee.org/document/6381712>).
- "Measurements of electromagnetic field strength in urban environment from UMTS radio base stations and analysis of the relation with the radiated power", V. Bottura, M. Cappio Borlino, M. Mathiou, S. Adda, S. D'Elia & D. Vaccarone. EMC EUROPE 2012, International Symposium on Electromagnetic Compatibility, Rome, Italy, September 17th-21st, 2012, Proceedings (<https://ieeexplore.ieee.org/document/6396896> and http://www.arpa.vda.it/images/stories/ARPA/nir/pubblicazioni/articoli/2012_a_emc_roma_rf.pdf).
- "A protocol for the management of occupational EMF exposure of personnel working near Radio Base Stations", S. D'Elia and D. Vaccarone, 5th International Workshop on Biological effects of Electromagnetic Fields, Terrasini (Palermo), Italy, September 28th-October 2nd 2008, Proceedings.
- "Shielding Effects of Reinforced Concrete Structures to Electromagnetic Fields Due to GSM and UMTS Systems", G. Antonini, A. Orlandi and S. D'Elia, IEEE Transactions On Magnetics, Vol. 39, No. 3, May 2003, pages 1582-1585 (<https://ieeexplore.ieee.org/document/1198530>).
- "Ray Tracing Calculation of RF Emissions from a Mobile Radio Base Station in a typical urban environment for the assessment of human exposure", S. D'Elia, L. Ruffilli and A. Barabino, EMC Europe 2002, International Symposium on Electromagnetic Compatibility, Sorrento, Italy, September 9th-13th 2002, Proceedings Volume 1 pag. 457-462

Google Scholar profile

<https://scholar.google.com/citations?user=TVQQjcAAAAJ>

ORCID profile

<https://orcid.org/0000-0002-6211-8819>

Main publications (Italian language)

- "Il 5G e l'aggiornamento della normativa tecnica nazionale e internazionale sui campi elettromagnetici", S. D'Elia, R. Suman, Dossier Ambiente n. 136, trimestrale dell'Associazione Ambiente & Lavoro, IV trimestre 2021, ISSN 1825-5396.
- "Caratterizzazione delle emissioni di un'antenna posizionata sotto il piano stradale", S. Adda, L. Anglesio, G. d'Amore, S. D'Elia, R. Suman, Atti del Convegno Nazionale AIRP "Sorgenti di radiazioni: dai modelli alle misure", Salerno, 8-10 novembre 2017.
- "Evidenze sperimentali sul coefficiente di riduzione della potenza previsto dal D.Lgs 179/12 e dalla guida CEI 211-7/E", S. D'Elia, R. Suman, Atti del XXXVII Convegno Nazionale AIRP "Le radiazioni: valori, conoscenza scientifica e aspetti operativi", Aosta, 15-17 ottobre 2014.
- "Misura dell'esposizione umana a campi elettromagnetici da segnali LTE: l'applicazione dell'appendice E alla norma CEI 211-7", S. Adda, L. Anglesio, G. d'Amore, S. D'Elia, R. Suman, Atti del XXXVII Convegno Nazionale AIRP "Le radiazioni: valori, conoscenza scientifica e aspetti operativi", Aosta, 15-17 ottobre 2014.
- "Dalle femtocelle alle Small Cells: l'evoluzione delle reti mobili", A. Casto, S. D'Elia & M. Zangani, Rivista dell'AEIT (Associazione Elettro Tecnica Italiana), n. 3, marzo 2014
- "Evoluzione della normativa sui campi elettromagnetici", S. D'Elia, R. Suman & M. Zangani, Rivista dell'AEIT (Associazione Elettro Tecnica Italiana), n. 3, marzo 2014
- "Misure di campo elettrico generato in ambiente di vita da stazioni radio base UMTS e analisi della relazione con la potenza in antenna", V. Bottura, M. Cappio Borlino, M. Mathiou, S. Adda, S. D'Elia & D. Vaccarone, Atti del Quinto Convegno Nazionale "Il controllo degli agenti fisici: ambiente, salute e qualità della vita", Novara, 6-8 giugno 2012;
successivamente *Bollettino AIRP*, Anno XXXIX, volume 171, numero 3-4, agosto 2012, ISSN 1591-3481 e-ISSN 2281-180X.
- "Misure di campo elettrico da UMTS in ambiente", V. Bottura, M. Cappio Borlino, M. Mathiou, S. D'Elia & D. Vaccarone, *Ecoscienza*, n. 5/6, dicembre 2011, ISSN 2039-0424.
- "Metodologie per la verifica della conformità delle stazioni radio base di terza generazione ai limiti di esposizione ai campi elettromagnetici", S. D'Elia & L. Ruffilli, Atti della Giornata di Studio AEI "Compatibilità Elettromagnetica di apparati e sistemi elettrici ed elettronici: innovazione tecnologica e sviluppo industriale", Roma, 1 ottobre 2003.
- "Tecniche di calcolo del campo elettromagnetico per stazioni radiobase", S. D'Elia, Atti della Giornata di Studio AEI "La misura dei campi elettromagnetici in vista della caratterizzazione dell'esposizione umana", Milano, 20 novembre 2000.

Standard activities

Dates	2002-present
Principal subjects covered	Since 2002, appointed convenor of the Working Group "Mobile Base Stations and IoT" ("Stazioni Radio Base e IoT") within the EMF Committee (Technical Committee 106) of the Italian Electro Technical Committee (CEI, Comitato Elettrotecnico Italiano). Italian delegate in several EU (TCAM), IEC and CENELEC meetings and working groups.
Name and type of organisation	CEI, Comitato Elettrotecnico Italiano (National standard body) CENELEC, European Committee for Electro Technical Standardization IEC, International Electro Technical Committee

Other teaching activities, seminars and congress speeches

AIRP, Italian Association of Radiation Protection, 61th Course of the AIRP Scuola Superiore di Radioprotezione "Carlo Polvani", 28th January 2022, speech on "*Introduzione al segnale 4G: caratteristiche tecniche e modalità di valutazione dell'esposizione*"

Associazione Ambiente & Lavoro, Symposium "*Esposizione umana ai campi elettromagnetici: come e cosa sta cambiando? Presentazione del Dossier Ambiente dedicato*", Bologna, 2nd December 2021, speech on "*Il 5G e l'aggiornamento della normativa tecnica nazionale e internazionale sui CEM*" (https://amblav.it/eventi/bologna_2021_campielettromagnetici/)

IWPC, The International Wireless Industry Consortium, Workshop on 4G/5G Antenna Innovation and Evolution, 19th November 2020, keynote speech on "*4G/5G Antenna Innovation and Evolution*"

AIRP, Italian Association of Radiation Protection, Convegno Nazionale di Radioprotezione, Lamezia Terme, 1st October 2020, speech on "*Attività del Gruppo di Lavoro CEI "Stazioni Radio Base e IoT" sulla nuova revisione della Guida 211-7 Appendice E*"

Ordine Ingegneri della Provincia di Milano, Workshop "*Esposizione umana a campi elettromagnetici in ambito urbano e industriale*" in the Milano Digital Week, Milan, 29th May 2020, speech on "*Metodologie di calcolo e di misura: gli standard CEI e IEC per le stazioni radio base*"

SNPA, Sistema Nazionale per la Protezione dell'Ambiente, Seminar "*Procedure autorizzative degli impianti di telefonia mobile 5G*", Rome, 28th November 2019, speech on "*Attività di standardizzazione sul 5G di CEI e IEC*" (<http://www.snambiente.it/2019/12/13/procedure-autorizzative-degli-impianti-di-telefonia-mobile-5g/>)

Osservatorio IoT Politecnico di Milano, speech in the Workshop "*Le tecnologie Internet of Things: reti, piattaforma e nuova sensoristica*", Milan, 8th November 2019

IOTINGS, Innovability Hub, Milan, 5th April 2019, workshop "*Narrowband IoT*" (<http://www.innovabilityhub.it/vodafone/>)

Osservatorio IoT Politecnico di Milano, speech in the Workshop "*Le tecnologie Internet of Things: evoluzione e trend in atto*", Milan, 30th November 2018 (http://ossqual.mip.polimi.it/it_it/workshop/archivio/tecnologie-internet-of-things-evoluzioni-trend)

AIRP, Italian Association of Radiation Protection, 55th Course of the AIRP Scuola Superiore di Radioprotezione "Carlo Polvani", Lecce, 15th May 2018, speech on "*Le nuove modalità di misura e di valutazione dell'esposizione per il confronto con i limiti: le attività di standardizzazione nazionale ed internazionale per il 5G*"

Osservatorio IoT Politecnico di Milano, speech in the Workshop "*Internet of Things: la prospettiva tecnologica*", Milan, 29th November 2017 (http://ossqual.mip.polimi.it/it_it/workshop/archivio/internet-of-things-la-prospettiva-tecnologica)

IOTINGS (former M2M Forum), Milan, 16th May 2017, speech on "*Narrowband IoT is coming, Vodafone IoT needs you to build the ecosystem*"

ARERA, Italian Regulatory Authority for Energy, Networks and Environment, Workshop on Second Generation Smart Metering, Milan, 11th December 2015, speech on "*Lo standard Narrowband IoT*" (<https://www.arera.it/it/eventi/151211.htm> and https://www.arera.it/allegati/eventi/151211_VodafoneDelia.pdf)

AIRP, Italian Association of Radiation Protection, 51st Course of the AIRP Scuola Superiore di Radioprotezione "Carlo Polvani", Calci (Pisa), 5th November 2015, speech on "*Le nuove modalità di misura e di valutazione dell'esposizione per il confronto con i limiti: l'Appendice E della Guida CEI con particolare riferimento ai segnali LTE*"

ENI Foundation and Regional Environmental Agency Regione Lombardia, Seminar for Teachers "*Telefonia cellulare, ambiente e salute*", Mantova, 25th November 2010, speech on "*Evoluzione dei sistemi di telecomunicazione e ambiente*"

Bordoni Foundation, speech in the Seminar "*Evoluzione dei sistemi di telecomunicazione e protezione ambientale: ricerca, comunicazione e controllo*", Pontecchio Marconi (BO), 16th September 2010

University of Rome "La Sapienza", Faculty of Engineering, Master Universitario di I livello (Professional continuing education course "CEIACEM") "*Electro Magnetic Compatibility and Environmental Assessment of Electromagnetic Fields*", speech on "*Design and environmental assessment of Mobile Communication Networks*", 26th April 2004

University of Lecce, Faculty of Engineering, Master Universitario di II Livello (Professional continuing education course "ICEA") "*Interaction between Electromagnetic Fields and Environment*", coordination of the training module on "*Mobile Communications*", 17th-21th November 2003

Italian Electro Technical Committee (Comitato Elettrotecnico Italiano), Symposium “Stazioni Radio Base e protezione dai campi elettromagnetici”, Milan, 16th January 2003: speech on “Attività normativa in corso, misure di emissione per impianti di terza generazione e software di calcolo del campo elettromagnetico”.

SAT EXPO 2002, conference “L’inquinamento elettromagnetico” organized by Centro Radioelettrico Sperimentale G. Marconi, Vicenza, 4th October 2002: speech on “Metodologia di progetto delle stazioni radio-base”.

IBC’s 4th International Conference “Mobile Networks and the Environment”, London, 22th-23th May 2002, speech on “Provision of an EMF Monitoring Service for the Community - the Cassiopea project”.

Scuola di Perfezionamento in Ingegneria delle Radiocomunicazioni (Guglielmo Marconi Foundation, University of Bologna), Seminars “Impatto sanitario delle radiocomunicazioni”, Pontecchio Marconi (BO), May 2001 and May 2002: speeches on “Normative tecniche per le Stazioni Radio Base”.

Italian Electro Technical Committee (Comitato Elettrotecnico Italiano), Training Course on Electro Magnetic Fields measurements and calculation, Milan, 13th March 2001: speech on “Metodologie e strumentazione per la misura dei campi elettromagnetici ad alta frequenza; metodologie di calcolo per valutazioni preliminari”.

Gruppo Nazionale di Elettrotecnica, Annual Meeting of Researchers “ET2000”, speech in the plenary session “Inquinamento Elettromagnetico Ambientale”, Udine, 16th June 2000.

Education and training

Dates	1997-1998
Title of qualification awarded	Abilitazione alla professione di Ingegnere
Principal subjects covered	Professional qualification in 1997, registered as a chartered engineer since January 1998.
Name and type of organisation	University of Rome “La Sapienza” / Ordine degli Ingegneri
Dates	1989-1996
Title of qualification awarded	Laurea specialistica, Electronical Engineering
Principal subjects covered	Specialized in Bio-electromagnetic engineering, Graduation Thesis on the EMF assessment of DECT access points in an urban environment through ray-tracing calculation and measurements, supervised by professor Guglielmo D’Inzeo. Graduated with top score 110/110 “cum laude”.
Name and type of organisation	University of Rome “La Sapienza”
Principal subjects covered	Full scholarship at the University College “Lamaro Pozzani” in Rome, including training courses on Business Culture, Economics and Organization, seminars and study trips (India, Ecuador, Turkey). During 1995-1996, Head of the Editorial Board of the magazine “Panorama per i giovani” (published by Federazione Nazionale Cavalieri del Lavoro).
Name and type of organisation	University College “Lamaro Pozzani”, Federazione Nazionale Cavalieri del Lavoro, Rome
Dates	1989
Title of qualification awarded	Maturità Scientifica
	Graduated with top score 60/60.
Name and type of organisation	Liceo Scientifico “De Giorgi”, Lecce

Autorizzo il trattamento dei miei dati personali presenti nel curriculum vitae ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 e del GDPR (Regolamento UE 2016/679).

I give consent to process my data with the purpose of the recruitment process, in accordance to the Regulation of the European Parliament 679/2016, regarding the protection of natural persons and free movement of such data

Ivrea (Italy), 30th June 2022

