

CESI

NAME: **Gabriele CARBONI**

DATE OF BIRTH: April 26, 1953

NATIONALITY: Italiana

EDUCATION: Doctor's Degree in Physics, , Politecnico of Bologna (Italy), 1977

OTHER TRAINING: Environmental impact: methodology analyses and applying, Politecnico of Milan (Italy), 1984
Air Pollution Modelling, Institute for Computational Mechanics (Southampton, UK), 1982
Physics of the Planetary Boundary Layer, International School of Atmospheric Physics (Erice, Italy), 1978
Short and Long Range Forecasting in the Mediterranean Region, International School of Meteorology of the Mediterranean (Erice, Italy), 1978

LANGUAGE AND DEGREE OF PROFICIENCY: Italian *written:* Sufficient *read:* Sufficient *spoken:* Sufficient
French *written:* Sufficient *read:* Sufficient *spoken:* Sufficient
English *written:* Sufficient *read:* Sufficient *spoken:* Sufficient

COUNTRIES OF WORK EXPERIENCE: Brindisi (BR)
Brindisi
Brindisi (BR)
Civitavecchia
Civitavecchia (Rm)
Civitavecchia (Rome)
Fusina (VE)
Genova (GE)
La Spezia and Civitavecchia
Piombino (LI)
Venice (VE)

EMPLOYMENT RECORD:

FROM 2010	TO DATE
EMPLOYER	CESI - DIVISIONE ENGEENERING & ENVIRONMENT -ISMES Environmental Studies & Monitoring
POSITION HELD AND DESCRIPTION OF DUTIES	Project Manager Management of client job orders related to meteorological and air quality monitoring; noise and vibration measurements; bio-monitoring.
FROM 2007	TO 2010
EMPLOYER	CESI /ISMES Environmental ant land Division
POSITION HELD AND DESCRIPTION OF DUTIES	Manager Chief of the Environmental Diagnostic Unit. Coordinator of environmental diagnostics in the field of: meteorology, climatology, air quality, noise, vibration, electromagnetic fields, dispersion model applications.
FROM 2006	TO 2010
EMPLOYER	CESI SpA BU Atmosphere
POSITION HELD AND DESCRIPTION OF DUTIES	Project Leader Co-ordinator of: field measurement and dispersion evaluations; field

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meteorological measure using standard and remote sensing instruments;
field measurements of air quality.
Application of receptor model CMB8 to the site of Genoa.

FROM 2004	TO 2005
EMPLOYER	CESI S.p.A. BU Atmospheric group
POSITION HELD AND DESCRIPTION OF DUTIES	Scientific Manager Scientific manager of GAME-SINBA: Project related to the monitoring an air quality evaluation for the new configuration and cogeneration of the Piacenza Power plant to realise district heating. Scientific manager of MONAMB: project related to the greenhouse effect over Italy with the measure of CO ₂ at Plateau Rosa Station (3500 m a.s.l.)
FROM 2002	TO 2004
EMPLOYER	CESI S.p.A. (Italia) - B.U. Environmental- Atmospheric Group
POSITION HELD AND DESCRIPTION OF DUTIES	Manager Co-ordinator of: field measurement and dispersion evaluations; field meteorological measure using standard and remote sensing instruments; field measurements of air quality.
FROM 1997	TO 2001
EMPLOYER	Enel Produzione S.p.A. (Italia) - Unità Laboratorio di Piacenza
POSITION HELD AND DESCRIPTION OF DUTIES	Project Leader Project leader of Environmental Atmospheric Group. Coordinator of activity on meteorology and atmospheric dispersion. Project definition and operative and field activity organisation. Co-ordinator between ENEL and local authority. Production of technical reports on Planetary boundary layer measurements and dispersion evaluations. Execution of field measure using standard and remote sensing instruments. Data elaboration to prepare Environmental Impact Assessment of electrical power plant.
FROM 1996	TO 2000
EMPLOYER	University of Parma
POSITION HELD AND DESCRIPTION OF DUTIES	Contract Professor Teacher of Climatology and Meteorology at Environmental Sciences course
FROM 1989	TO 1996
EMPLOYER	ENEL S.p.A. (Italia) - Direzione delle Costruzioni - Unità Laboratorio di Piacenza
POSITION HELD AND DESCRIPTION OF DUTIES	Expert Engineer Chief of the environmental Group: ¿meteorology and atmospheric dispersion¿. Project definition and operative and field activity organisation. Co-ordinator between ENEL and local authority. Production of technical reports on Planetary boundary layer measurements and dispersion evaluations. Execution of field measure using standard and remote sensing instruments. Application of models ISCST, ISCLT, NUVOLA; AVACTA II, SPRAY to

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evaluate ground level concentration by point source emission

FROM 1980

TO 1989

EMPLOYER

ENEL S.p.A. (Italia) - Direzione Studi e Ricerche - Centro Ricerca Termica e Nucleare di Milano

POSITION HELD AND DESCRIPTION OF DUTIES

Junior Researcher
Specialist in environmental system analysis in the field of atmospheric physics. Organisation of experimental campaign to measure the characteristics of Planetary boundary layer and evaluation of dispersion parameters. The activity is performed with different Italian University and is related to the organisation of field measurements.

At the end of measure other aspects related to the application of dispersion and meteorological models for the evaluation of ground level concentration.

FROM 1978

TO 1980

EMPLOYER

TECNO GEO TOPOGRAFIA di Milano (Italia)

POSITION HELD AND DESCRIPTION OF DUTIES

Junior Engineer
Execution of wind and temperature vertical profile in the atmosphere.
Analysis of collected data.

DETAILED TASKS ASSIGNED:

Project

Evaluation of fugitive emissions from handling of coal, ash, limestone and gypsum: measurements requests for the AIA control.

ENEL Produzione

Location

Brindisi

Year

2013

Position

Coordinator

Duties

Coordination of field measurements and data elaboration.

Project

Control of fugitive emission during handling of limestone, gypsum and ash by measurements of wet and dry deposition

ENEL Produzione

Location

Civitavecchia

Year

2012-2013

Position

Coordinator

Duties

co-coordinator of experimental design and data elaboration

Project

Analysis of the gas and particle plume structure during condensation events.

ENEL Produzione

Location

La Spezia and Civitavecchia

Year

2011-2014

Position

Coordinator

Duties

Coordination of the LIDAR and DOAS measurement made by CNR ISAC and elaboration of plant data and contemporary plume picture.

Project

Analysis of Civitavecchia network of air Quality data for the year 2009-2010-2011-2012-2013 and presentation in the ARPAL format.

ENEL Produzione

Location

Civitavecchia (Rome)

Year

2010-2014

Position

Coordinator

Duties

Co-ordinator of data treatment and presentation

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Project	Implementation of a protocol to control the emissions of coal dust from Brindisi coal stock.
Location	ENEL Produzione
Year	Brindisi
Position	2010-2012
Duties	Coordinator
	Experimental design of location and type of measurement finalised to the control of the fugitive emissions
Project	Dust monitoring of the conveyor belt of Brindisi. Test of conveyor belt revamping
Location	TENOVA e CEMIT per ENEL SpA
Year	Brindisi (BR)
Position	2009-2010
Duties	Coordinator
	Co-ordinator of measurements and data elaboration
Project	Measurements of wind and temperature vertical profile made by remote sensing instrumentations. Measurements of energy fluxes in the PBL with sonic anemometer and Meteoflux Station in the laguna area of Venice
Location	ENEL
Year	Venice (VE)
Position	2009-2010
Duties	Coordinator
	Co-ordinator of measurements and data elaboration
Project	Air quality monitoring related to the improvement of the co-combustion coal ζ CDR in the 3 and 4 unit of Fusina power plant. Winter measurement (ante operam) and spring measurement (post-operam)
Location	ENEL
Year	Fusina (VE)
Position	2008-2010
Duties	Coordinator
	Co-ordinator of measurements and data elaboration
Project	Implementation of a behaviour protocol to avoid of dust impact due to coal handling in the coal bunker
Location	ENEL
Year	Brindisi (BR)
Position	2008
Duties	Coordinator
	Co-ordinator of measurements, data elaboration and definition of the protocol
Project	Monitoring of micro-pollutants (heavy metals, anions and cations, IPA) in atmospheric particulate and in wet and dry deposition in 4 station for a log period (over a year) to evaluate the contribution of the new coal power plant
Location	ENEL
Year	Civitavecchia (Rm)
Position	2007
Duties	Coordinator
	Co-ordinator of measurements and data elaboration
Project	Model evaluation of benefit due to the reduction of gas emission from Genoa power plant.
Location	ENEL
Year	Genova (GE)
	2007-2008

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Position	Coordinator
Duties	Co-ordinator of data elaboration
Project	Evaluation of the contribution of nanoparticles emitted by an oil power plant.
Location	ENEL Piombino (LI)
Year	2007-2008
Position	Coordinator
Duties	Co-ordinator of measurements and data elaboration
Project	Evaluation of the Genova power plant relative contribution to the air pollution in the surrounding (urban) area by means of conventional gas and organic compound measurements in air and the application of chemical mass balance model.
Location	ENEL Genova (GE)
Year	2006-2007
Position	Coordinator
Duties	Co-ordinator of measurements and data elaboration

List of PAPERS

- **G. Carboni** , *"Attività sperimentali per la valutazione della circolazione atmosferica locale nell'area della laguna di Venezia-Ca' Dolfin Venezia 14/10/2010"* , Ente della Zona Industriale di Porto Marghera - Giornata di studio del Particolato fine (PM2,5) nell, Venezia, 2010
- **G. Carboni** , *"Il monitoraggio degli inquinanti non convenzionli e la valutazione del loro contributo relativo"* , Università di PARMA "i sistemi di gestione dei rifiuti: tecnologie, migliori pratiche, impatti e conseguenze sull'ambiente.", Parma, 2010
- **G. Carboni** , *"Fattori di emissione e profili di inquinanti nelle emissioni da caldaie domestiche"* , Gruppo EGTEI (UN-ECE Expert Group on Techno-Economic Issues), Roma ENEA , 2007
- **G. Carboni** , C. Geels, M. Gloor, P. Ciais, P. Bousquet, P. Peylin, A. T. Vermeulen, R. Dargaville, T. Aalto, J. Brandt, J. H. *"Confronto tra modelli di trasporto atmosferico per future valutazioni con metodi di inversione sull'Europa - Parte 1: mappatura della CO2"* , Atmospheric Chemistry and Physics - Copernicus Publications on behalf of the European Geosciences Union., www.atmos-chem-phys.net, 2007
- A. Fiore, **G. Carboni** , E. Tassi, M. RIVA - CESIRICERCA *"Un progetto per il miglioramento della qualità dell'ambiente"* , ACQUA & ARIA, Milano, 2006
- **G. Carboni** , Geels, Gloor, Ciais, Bousquet, Peylin, Vermeulen, Dargaville, Aalto, Brandt, Christensen, Frohn, Haszpra, Karstens, Rodebeck, Santag, *"Confronto tra modelli di trasporto atmosferico per valutazioni regionali inverse sull'Europa. Parte 1 Rappresentazione dei valori di CO2 atmosferica."* , Atmospheric Chemistry and Physics Discussions - Copernicus Publications, Max-Planck-Strasse 13, D-37191 Katlenburg-Lindau, Germany, 2006
- A. Fiore, **G. Carboni** , G. M. Riva, E. Tassi, Valeria Roncroffi UNIBO; Alessia Arelli UNIPR; Alberto Parenti POLIMI *"Progetto di Ricerca di Sistema GAME - Generazione elettrica ed Ambiente nelle Aree Metropolitane - Prospettive di sviluppo della Cogenerazione"* , APAT - 2° Rapporto annuale sulla qualità dell'ambiente urbano, Roma - Italy, 2005
- **G. Carboni** , *"Plateau Rosa secondo anno di attività"* , CarboEurope Integrated Project IP: 3rd General Assembly , Levi - Finland, 2005
- G. Cottarelli, A. Fiore, **G. Carboni** , Valeria Roncroffi UNIBO; Alessia Arelli UNIPR; Alberto Parenti POLIMI. *"Metodologie di campionamento e misure di qualità dell'aria in ambito urbano finalizzate alla valutazione del contributo delle diverse sorgenti."* , "Il laboratorio ideale" sezione ARIA di Acqua&Aria presso ECOMONDO, Rimini - Italy, 2005

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- **G. Carboni** , P.Cristofanelli, P.Bonasoni, F.Calzolari - ISAC; R. Santaguida - Italian Air Force; S. Zauli Sajani - ARPAer "*ANOMALOUS HIGH OZONE CONCENTRATION RECORDED AT A HIGH MOUNTAIN STATION IN ITALY IN SUMMER 2003*", ATMOSPHERIC ENVIRONMENT - ELSEVIER, AMSTERDAM - THE NETHERLANDS, 2005
- **G. Carboni** , C. Vannini, "*Monitoraggio dei gas serra sul Plateau Rosa*", CO2 EXPO 2005 (29set-01ott 2005), ROMA, 2005
- **G. Carboni** , C. Vannini, Santaguida, De Nile, Lauria, De Luca, Proietti - AM; Piacentino, Chamard, De Silvestri, Di Sarra, Monteleone - ENEA "*La misura della CO2 nei siti della rete di osservazione italiana*", 13th WMO/IAEA Meeting of Experts on Carbon Dioxide Concentration and Related Tracer Measurement Techniques , Boulder, Colorado, USA; September 19-22, 2005, 2005
- L. Casarola, **G. Carboni** , C. Vannini, P.Cristofanelli, P.Bonasoni, F.Calzolari - Inst. of Atmospheric Sciences and Climate - S.Santaguida - Italian Air Force, Z.Sajani - ARPA "*ANOMALOUS HIGH OZONE CONCENTRATION RECORDED AT MT. CIMONE STATION (2165 m asl) DURING SUMMER 2003*", 1st ACCENT symposium "The Changing Chemical Climate of the Atmosphere", Urbino, 12th-16th September 2005., 2005
- **G. Carboni** , Alessia Arelli, Francesco Giusiano (Univeristà di Parma - Dipartimento di Sanità Pubblica) "*Metodi di campionamento per la applicazione di modelli di recettore*", Acqua & Aria - N. 7 2005 , Milano, 2005
- **G. Carboni** , "*Il monitoraggio dei gas serra a Plateau Rosa*", La qualità dell'aria nelle aree urbane: il ruolo della ricerca per la riduzione dell'inquinamento atmosferico, Piacenza, 2005
- L. Casarola, **G. Carboni** , C. Vannini, P. Cristofanelli, P. Bonasoni, U. Bonafé, F. Calzolari (ISAC); S. Zauli Sajani (ARPA), "*Estate 2003: concentrazioni di ozono alte e anomale registrate nelle postazioni di alta quota.*", General Assembly 2005 of European Geosciences Union, Vienna - Austria, 2005
- **G. Carboni** , "*Stazione Plateau Rosa - Procedure di selezione dei dati e definizione dei flag*", CarboEurope IP Atmosphere - Data flagging workshop , Heidelberg (Germany), 2005
- **G. Carboni** , "*Il clima cambia? Dati, misure e proiezioni per il futuro*", Il Premio NATTA per le scuole secondarie superiori: La chimica ed il cambiamento globale del clima, Milano - Politecnico , 2005
- **G. Carboni** , Valeria Roncroffi, Francesco Santarelli - DICMA, Università di Bologna "*Ruolo delle condizioni meteorologiche nella valutazione della qualità dell'aria*", Acqua&Aria, Milano, 2004
- F. Boselli, N. Gazzola, **G. Carboni** , C. Vannini, "*Il monitoraggio dei gas serra a Plateau Rosà*", Rivista Acqua e Aria - maggio 2004, 2004
- **G. Carboni** , S. Finardi, G. L. Tinarelli, "*Analysis of air pollution episodes driver by temperature inversion in the sub-alpine Italian region*", The COST 715 Expert Meeting (Workshop): Mixing height and inversion in urban areas, Toulouse (France), 3-4 October 2001, 2001
- G. Brusasca, **G. Carboni** , D. Sanavio, S. Finardi, G. L. Tinarelli, A. M. Toppetti, "*Comparison of a Gaussian (ISC3) and a Lagrangian Particle Model (SPRAY) for Regulatory applications in Flat and Complex Terrain Sites Representative of Typical Italian Landscape*", International conference on Harmonisation within atmospheric dispersion modelling for regulatory purposes. European Commission - Joint Research Centre; Belgirate(Italy), 28-31 Maggio 2001, 2001
- **G. Carboni** , S. Finardi, G. L. Tinarelli, "*Analisi degli episodi di inquinamento dovuti ad inversioni termiche nelle regioni italiane sub-alpine.*", COST 715 Expert Meeting (Workshop): Mixing height and inversions in urban areas, 2001
- G. Brusasca, **G. Carboni** , G. Pirovano, G. M. Riva, D. Sanavio, C. Silibello, G. Finzi "*Applicazione dei modelli CALGRID e NUVOLA all'area circostante la centrale termoelettrica di Rossano Calabro*", Inquinamento, Ottobre 1998, 1998
- **G. Carboni** , G. M. Riva, "*Applicazione del modello di Avacta II per studiare gli effetti dell'inquinamento di breve durata in terreno complesso.*", 22nd International Conference on Alpine Meteorology, Toulouse, France, September 1992, 7-11, 1992

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- **G. Carboni** , G. Mamolini, S. Finardi, C. Silibello, *"Complex terrain model verification for predicting compliance with air quality standards"* , Van Dop H., Kallos G. (Editors): Air Pollution Modeling and its Application IX, Plenum Press, New York, pp. 767-768, 1992
- F. D. Apadula, **G. Carboni** , G. Manzi, *"Flussi di trasporto attraverso il passo del Brennero"* , LXXV° Congresso Nazionale Società Italiana di Fisica - Cagliari, 25-30 Settembre 1989., 1989
- **G. Carboni** , G. Bacci, E. Boffino *"Meteorological measurements at S. Pietro Capofiume (november 1986)"* , Fuzzi S. (Editor): Heterogeneous atmospheric chemistry project. CNR-FISBAT April 1987, 1987
- **G. Carboni** , A. Ceriani, P. Zannetti *"AVACTA II model simulations of worst-case air pollution scenarios in northern Italy"* , De Wispelaere C., Schiermeier F.A., Gillani N.V. (Editors): Proceedings of the 15 NATO/CCMS International Technical Meeting on Air Pollution Modelling and its applications. Plenum Publishing Corporation, pp. 113-122, 1986
- F. D. Apadula, **G. Carboni** , E. Boffino *"Meteorological measurements during the fog experiment at S. Pietro Capofiume"* , Fuzzi S. (Editor): Heterogeneous atmospheric chemistry project. CNR-FISBAT February 1986, 1986
- **G. Carboni** , R. Lewis, P. Zannetti *"AVACTA II user's guide (release 3)"* , AeroVironment Inc. AV OM 85/520 August 1985, 1985
- **G. Carboni** , R. Lewis, L. Matamala *"AVACTA II user's guide (release 3.1)"* , AeroVironment Inc. AV R 86/530 August 1986, 1985
- M. R. Alabiso, **G. Carboni** , P. Bacci, G. Bonino, A. Longhetto, P. Melli, A. Spirito *"A climatological diffusion model for ground level and elevated emissions in a weak wind area."* , Pubblicazione IBM G513-4070 May 1985, 1985
- **G. Carboni** , D. Anfossi, P. Bacci, S. Viarengo *"Internal boundary layer at coastal sites"* , Il nuovo cemento C, vol. 7C, nr. 4, pp. 427-439, 1984
- G. Brusasca, **G. Carboni** , R.A. Pearson *"The sea breeze with mean flow"* , Quaterly Journal of the Royal Meteorological Society, 109, pp. 809-830., 1983
- **G. Carboni** , P. Bacci *"A mathematical model of acid smuts fall-out"* , Il nuovo cemento C, vol. 6C, nr. 3, pp. 225-238., 1983
- **G. Carboni** , P. Bacci, D. Bassetti, P. Camagni, C. Cerruti, P. Gaglione, H. Hasenjager, N. Hazes, C. Koechler, S. Sandroni *"Characterisation of plume dispersion in breeze regime by remote sensing and tracer techniques"* , European applied research reports: Environmental and natural resources section. Vol. 2, nr. 1, pp. 49-78., 1983
- **G. Carboni** , P. Bacci, De Bortoli, P. Gaglione, P. Thomas, S. Vogt *"Atmospheric diffusion experiments performed in october 1980 at the Turbigo ENEL Power Plant"* , Commission of European Communities, Environment and quality of life, EUR 8334 EN., 1983
- G. Brusasca, **G. Carboni** , P. Bacci, R.A. Pearson, A. Piano, R. Richiardone *"Numerical experiments and case study with a mathematical model of local flows"* , Rinaldi S. (Editor): Environmental System Analysis and Management. Proceedings of the IFIP WG 7.1 Working Conference, Rome (Italy) 28-30/9/1981, 1981
- G. Brusasca, **G. Carboni** , D. Borgese, A. Colla, R. Pearson, R. Richiardone *"Modello di circolazione atmosferica a scala locale"* , CNR Collana del progetto finalizzato Promozione della qualità dell'ambiente, Milano AQ 3-13., 1981
- **G. Carboni** , G. Giovannelli, Tirabassi, C. Tomasi, O. Vittori *"Studio di fattibilità di misure di spessori ottici di HCl e CH4 mediante la tecnica a maschera di correlazione"* , CNR Collana del progetto finalizzato Promozione della qualità dell'ambiente, Roma AC/3/20, 1978

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