Roberto Bellasio

Senior Associate, EnviroComp Consulting, Inc.
Senior Member, The EnviroComp Institute
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Academic Credentials

Three years post-graduation school on **Statistics applied to Medicine** (University of Milan – Faculty of Medicine and Surgery). The thesis concerned the development and application of a probabilistic (Monte Carlo) method for the evaluation of health effects of the atmospheric concentrations of benzene and PM10. [Some results described in: Bellasio R. (2002) Epidemiological effects of atmospheric particulate and methods for estimating human exposure. Ingegneria Ambientale, vol. XXXI, n. 5 – In Italian].

Degree in Physics at the University of Milan (Italy). The thesis regarded the development and validation of a dispersion model for heavier than air gases in the lower atmosphere. [Some results published in: Bellasio R. and M. Tamponi (1994) MDGP: a new Eulerian 3D unsteady state model for heavy gas dispersion. Atmospheric Environment, 28, 1633-1643].

Professional Experience

2012 – Present
Senior Associate of EnviroComp Consulting, Inc, California

February 1997 - Present
Co-owner and project manager of Enviroware srl, Italy

Since 1997 he works for Enviroware (https://www.enviroware.com). In Enviroware he has been in charge for many projects, among which:

- **Emission inventory**, **air quality** evaluation and possible remediation actions for Region Sardinia (Italy). [Bellasio R., R. Bianconi, G. Corda and P. Cucca (2007) Emission inventory for the road transport sector in Sardinia (Italy). Atmospheric Environment, 41, 2, 677-691.]
- Shake-up project. Development of an air quality modelling system containing CALMET/CALPUFF, ISC3ST, CAL3QHC, AERMOD. The system has been developed using **Fortran** and **Visual Basic**.
- **ARIES system**. Development of a **web based modelling system** for the atmospheric dispersion of radionuclides at short, medium and long range. The system works mainly at European scale and is used in Italy for managing possible nuclear accidents that might impact on the national territory. Extensive usage of programming languages such as **Perl**, **Fortran**, **Javascript**. [Scarpato S., P.Zeppa, R.Bellasio e R.Bianconi (2011) Valutazione dell'impatto radiologico di rilasci in atmosfera a seguito di incidenti nucleari. IA Ingegneria Ambientale vol. XL n. 3 maggio-giugno 2011 – In Italian].
- Developer of the **long range Lagrangian particle model APOLLO2**, used for the atmospheric dispersion of radionuclides and inert gases. Such a model is used at the Institute for Research and Protection of Environment (I.S.P.R.A., Rome) within the ARIES system. It has been used also for evaluating the consequences of the Eyjafjallajokull volcano (Iceland) eruption, and the Fukushima (Japan) nuclear accident. The model is entirely written in **Fortran**. [Bellasio R., S. Scarpato, R. Bianconi and P. Zeppa (2012) APOLLO2, a new long range Lagrangian particle dispersion model and its evaluation against the first ETEX tracer release. Atmospheric Environment, 57, 244-256].
- Developer of a series of models for the **evaluation of the consequences of accidental releases** (dispersion of toxic or flammable gases, heavier or lighter than air, thermal radiation from jet fires,

fireballs and pool fires, overpressures from unconfined vapour cloud explosions – UVCEs – overpressure and fragments from BLEVEs). The modules are written in **Fortran**.

- Developer of **AERBOX**, a **multibox photochemical model** capable to simulate the processes responsible for the formation of secondary aerosols (nucleation and condensation). The model, entirely written in **Fortran**, has been used to evaluate the pollution load on the monuments in Florence (Italy). [Monforti F., R.Bellasio, R.Bianconi, G.Clai and G. Zanini (2004) An evaluation of particle deposition fluxes to cultural heritage sites in Florence, Italy. Science of the Total Environment, 334, 61-72].
- Developer of **Fortran** algorithms for simulating the effects of **shadow induced by topography** in calculating the solar radiation, and of an algorithm for **temperature interpolation**. Such algorithms have been introduced in an experimental version of the diagnostic meteorological model CALMET, belonging to the US-EPA suggested CULPUFF modelling system. [Bellasio R., G.Maffeis, J.Scire, M.G.Longoni, R.Bianconi and N.Quaranta (2005) Algorithms to account for topographic shading effects and surface temperature dependence on terrain elevation in diagnostic meteorological models. Boundary-Layer Meteorology, 114, 595-614].
- Developer of a methodology for the evaluation of the correct **macro-positioning of the air quality monitoring stations** according to the European Legislation. The methodology has been translated in a software currently used by Region Veneto, Italy. [Benassi A., Marson G., Baraldo E., Dalan F., Lorenzet K., Bellasio R. and Bianconi R. (2006) An objective methodology for evaluating the positioning of air quality monitoring stations. Ingegneria Ambientale, Vol. XXXV, n. 6, 286-294 – In Italian].
- Developer of the **WetPlume** model for predicting the frequency, size and possible ground impact of **visible plumes** (including fogging and icing episodes). The model is written in **Fortran**. [Presotto L., R.Bellasio and R.Bianconi (2005) Assessment of the visibility impact of a plume emitted by a desulphuration plant. Atmospheric Environment, 39(4), 719-737.]
- Responsible for the development of the **WindRose PRO3** and **FLARES** software, used by hundreds of people around the world. Extensive usage of **Visual Basic .NET**.
- Many atmospheric **atmospheric impact evaluation** studies for industrial plants located in Italy and abroad (refineries, gas compression stations, offshore plants, etc.).
- Many studies concerning **odour pollution** of different types of sources (waste water treatment plants, biogas production plants, food industries, agricultural plants, etc.).
- Many studies concerning the atmospheric impact evaluation of cooling towers (induced fog, formation of ice on the surface of streets, induced shadow, etc.).

1994 – 1997

From 1994 to 1997 I worked at the Joint Research Centre of the European Commission in Ispra (Varese, Italy), directly for the European Commission (Auxiliary Agent) or as a consultant for a private company. In this period I worked mainly on the AutoOil1 project (emission inventories and atmospheric dispersion for seven European cities).

Programming languages

Fortran (> 20 years), Perl (> 10 years), Visual Basic 6 and .NET (> 10 years), Javascript, jQuery.

Scientific Activity

More than 50 peer reviewed scientific publications on many Italian and international journals (Detailed list available at http://www.researchgate.net/profile/Roberto_Bellasio).

Member of the Editorial Board of the scientific journal Atmosphere (https://www.mdpi.com/journal/atmosphere).

Reviewer of some book proposals under contract for Elsevier.

Reviewer of scientific papers for some international journals, among which: Air Quality, Atmosphere and Health, American Chemical Science Journal, Atmospheric Environment, Atmospheric Research, Climate (MDPI), International

Journal of Environmental Research and Public Health (MDPI), Journal of Applied Meteorology and Climatology, Journal of Hazardous Materials, Science of the Total Environment. An almost complete list is available here: https://publons.com/author/488693/roberto-bellasio.

Member of the committee of the special session on effect of the environment on the sport performance at the icSPORTS 2013 International Congress on Sports Science Research and Technology Support (Vilamoura, Algarve, Portugal) – 20-22 September 2013.