Curriculum Vitae

ANDREA BISIGNANO

October 15, 2015

Academic qualifications

- 2008: Degree in Physics, Università del Piemonte Orientale.
  Thesis title: “Studio delle condizioni al contorno per un modello stocastico”
  Advisor: Prof. E. Ferrero, Università del Piemonte Orientale, Alessandria
  Co-advisor: Dr. L- Mortarini, ISAC-CNR, Turin
- 2010: Postgraduate Course, Master di I livello in “Nuove frontiere per la Fisica”, Università del Piemonte Orientale.
- 2011: Master's Degree, Laurea magistrale in “Fisica dei Sistemi complessi”, Università di Torino
  Thesis title: "Modello per la funzione densità di probabilità della concentrazione di scalari passivi in turbolenza reale"
  Advisor: Prof. E. Ferrero, Università del Piemonte Orientale, Alessandria
  Co-advisor: Dr. L- Mortarini, ISAC-CNR, Turin
- 2011-2014: PhD Student in “Scienze ambientali”, Università del Piemonte Orientale
  Thesis title: "Lagrangian stochastic modelling of the fluctuations of active and passive scalars in turbulent flows"
  Advisor: Prof. E. Ferrero, Università del Piemonte Orientale, Alessandria
  Co-advisor: Dr. L- Mortarini, ISAC-CNR, Turin
- rom November 1st 2014 until November 1st 2015: Post-doctoral Fellowship Holder "Master dei talenti della Società Civile 2014 (Fondazione CRT)", Università del Piemonte Orientale. Project topic: dispersion modelling chain, WRF meteorological model , plume rise.
- From November 1st 2015 until November 1st 2016: Temporary Research Associate, Università del Piemonte Orientale. Project Title: “Stima del rischio dovuto a fenomeni atmosferici intensi in presenza di convezione termica”. Project topic: dispersion modelling chain, WRF meteorological model, SPRAY Lagrangian dispersion model, risk assessment, emergency responce.

Skills and competences

Atmospheric Physics
Atmospheric Turbulence
Pollutant dispersion modelling
Planetary Boundary Layer Physics
Boundary layer meteorology
Stochastic models
Physical modelling

Technical Skills

Operating systems:

- Windows XP/7/8 (10 years)
- Linux: Ubuntu, Fedora (8 years)

Programming languages:

- FORTRAN 77/90 (8 years)
- C (6 years)
- Pascal (8 years)

Symbolic and mathematics softwares:

- R (8 years)
- Matlab (8 years)
- Wolfram Mathematica (5 years)
- LaTex (6 years)

Meteorological models:

- Weather Research and Forecasting Model WRF (1 years)

Dispersion model:

- Spray Lagrangian Particle Dispersion Model (3 years)

Scientific Collaborations

Prof. E.Ferrero, Università del Piemonte Orientale
Dr. L.Mortarini, ISAC-CNR, Torino
Dr B.Devenish, Metoffice, Exeter, (UK)
Dr. S.Alessandrini, RSE, Milano and UCAR, Boulder, CO, US

Publications

Peer-reviewed Journal Articles

- A.Bisignano, E Ferrero, L Mortarini, S Alessandrini , “Analytical offline approach for concentration fluctuations and higher order concentration moments”, Int. J. of Environment and Pollution, Vol.55:58-66 No 1/2/3/4, also in Proceedings of the 15th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, Aarhus University Denmark H15-159.

- A. Bisignano and B.J. Devenish, “A Model for Temperature Fluctuations in a Buoyant Plume.” Boundary-Layer Meteorology (July 22, 2015). doi:10.1007/s10546-015-0055-3
- A.Bisignano, E Ferrero, L Mortarini, "High-order concentration statistics in dispersing plumes”. In preparation for Physics A.

Conferences, workshops and seminars:

- A.Bisignano, B Devenish, “The effect of temperature fluctutations on the spread of buoyant plume”, 15th European Turbulence conference, 25-28 August 2015, Delft, Netherlands .
- A.Bisignano, B Devenish, E Ferrero, L Mortarini, “Validation of a Lagrangian model for temperature fluctuations in a buoyant plume using LES”, LES e dintorni III (ISAC-CNR Lecce), Luglio 2013, Castro Marina (LE), Italia
- A.Bisignano, E Ferrero, L Mortarini, S Alessandrini , “Analytical offline approach for concentration fluctuations and higher order concentration moments”, 15th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, Madrid, 2013
- Seminar: “Approcci Lagrangiani alla dispersione”, orator: Bisignano Andrea, 15/05/2012, ISAC-CNR, Turin.

Research visits abroad

From September 2012 to May 2013 visiting PhD Student at MetOffice, the UK's National Weather Service, hosted by the Atmospheric Dispersion and Air Quality group and supervised by Dr. B. Devenish.

Other scientific activities and qualifications

2010 Scholarships research granted “Produzione di materiale scientifico per una didattica innovativa della Fisica e partecipazione alla realizzazione di un sito internet per la diffusione della Fisica”, Supervisor Prof. M. Dardo.

2012 Mathematics teacher at Istituto Superiore statale “G. Parodi”, Acqui terme (AL)

2013 Mathematics teacher at L’Istituto Superiore statale “Rita Levi Montalcini”, Acqui Terme (AL)
2014 Physics teacher at Istituto Superiore statale “G. Ciampini”, Novi Ligure (AL)
2014/2015 Mathemathics Teaching assistant (Prof. Fabio Rapallo), Università del Piemonte Orientale.
2015/2016 Mathemathics Teaching assistant (Prof. Fabio Rapallo) and Physics Teaching assistant (Prof. Enrico Ferrero), Università del Piemonte Orientale.