

LUCIA MARIA LAURENZA

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PERSONAL INFORMATION

Address: Via Cupello 13A, 20097 San Donato Milanese (Milano), Italy

Date and place of birth: 01/04/1981, Novara, Italy

EDUCATION

2009- 18/07/2014: Geoinformation PhD, University of Tor Vergata, Rome. Thesis: *Application of KLIMA algorithm to Carbon Dioxide retrieval from IASI/METOP-A observations and comparison with TANSO-FTS/GOSAT products*

2004 – 26/10/2007: Master Degree in Physics (110/110), specialization Geophysics, “La Sapienza” University, Rome, Italy. Thesis: *Synergetic use of satellite and ground-based data to analyze the characteristics of urban climate over Rome.*

2000–2004: First level Degree in Physic and Information Technologies, “La Sapienza” University, Rome, Italy.

1995 – 2000: High school diploma, Scientific Lyceum “F. Severi”, Frosinone.

WORK EXPERIENCES

01/02/2010 – 31/10/2014: Research fellow at the Institute of Applied Physics “Nello Carrara” IFAC-CNR, Earth Observation Department, Sesto Fiorentino (Florence), Italy. Main activities:

- Developed a modular algorithm of radiative transfer model;
- Created a database to analyse and interpret data of CO₂ concentration;
- Validated CO₂ total column products from GOSAT/TANSO-FTS and IASI/METOP;
- Organized and presented a series of 10 seminars at Selex-ES (Finmeccanica group). Topics of the course: "The radiative transfer in the atmosphere: direct and inverse modelling "

09/02/2009 – 31/01/2010: Functional analyst of product at RGI spa in Rome. Experience in Groupama: product analyst and support on insurance products migration. Main activities:

- Direct interface with the customer and analysis of the documentation provided by the various technical fields for the identification and collection of customer requirements;
- Preparation of documentation with the functional specifications of the various products;
- Creating and managing insurance products through the “PassProdotti” application;
- Performing tests for the structural and functional assessment of the products

16/11/2008 – 31/01/2009: Researcher at the University of Bremen, Institute of Environmental Physics IUP, Bremen, Germany. Research topic: retrieval of ground-level Ozone from SCIAMACHY/ENVISAT

05/11/2007 – 14/07/2008: Trainee at Environmental System Analysis srl in Bracciano (Rome). The main activities during my stage were: development of the atmospheric emission inventories for Lazio and Sicily

regions and estimate of industrial emissions and training on the mathematical models of diffusion and transformation of pollutants in the atmosphere (CALMET, CALGRID)

05/02/2007-31/08/2007: Trainee at European Space Agency – ESA/ESRIN (Frascati, Italy) to prepare my thesis work. The main activities during my training period were: the study of urban heat island phenomenon through the analysis of ENVISAT data and data from in-situ instrumentation (environmental monitoring stations of ARPA Lazio); data analysis of temperature, relative humidity and PM measured by ground-based stations in Rome

TRAINING

30/09/2013 – 11/10/2013: I attended the "2nd TTorch Summer School" on "*Challenges in measurement and modeling of greenhouse gas concentrations and fluxes*" organized by ESF TTorch, Hyttiälä field station, Finland.

14/01/2013 – 04/03/2013: I attended the IT course "*Introduction to Python*", organized by IFAC-CNR, Sesto Fiorentino.

11/10/2010 – 15/10/2010: I attended the Remote sensing training course: "*Techniques, technologies and applications of Earth observation from space*", organized by IFAC-CNR, Sesto Fiorentino.

09/08/2010 – 13/08/2010: I attended the "ESA Earth Observation Summer School" on "*Earth system monitoring and modelling*" organized by ESA/ESRIN, Frascati.

26/07/2010 – 05/08/2010: I attended the "Summer School Alpbach 2010" on "*New space missions for understanding climate changes*" organized by the Aeronautics and Space Agency FFG and ESA, Alpbach, Austria.

15/06/2010 – 17/06/2010: I attended the IT course "*Scientific computing and technical language FORTRAN 95*", at the University Consortium for Supercomputing Application to University and Research CASPUR, Rome.

15/05/2006 – 24/05/2006: I attended the ECMWF Training Course MET-NM: "*Numerical methods and adiabatic formulation of models*" held at the ECMWF, Reading, UK.

LANGUAGES

ITALIAN: mother tongue

ENGLISH: spoken: fluent written: fluent

Trinity Certificate (The International Examinations Board) GRADE 6, *Spoken English for Speakers of Other Language*

SKILLS

Operating system: Unix/Linux, MS Windows7

MS Office2010: Word, Excel, PowerPoint

Programming languages: Fortran

Text Editor: Latex, Nedit

PUBLICATIONS

L.Laurenza “*Carbon Capture and Storage*” ScienzeNews,
<http://www.scienzenews.it/tecnologie/carbon-capture-and-storage.html>

L.Laurenza “*Cosa accade nel sole?*” EverySpace Magazine,
<http://www.everyspacemagazine.com/i-nostri-articoli/70-cosa-accade-nel-sole.html>

L.Laurenza “*Il WarpDrive, ergo “ho appena sorpassato la luce”*” EverySpace Magazine,
<http://www.everyspacemagazine.com/i-nostri-articoli/66-il-warpdrive.html>

L.Laurenza , S. Del Bianco, M. Gai, G. Schiavon, U. Cortesi “ *Comparison of Column-Averaged Volume Mixing Ratios of Carbon Dioxide Retrieved From IASI/METOP-A Using KLIMA Algorithm and TANSO-FTS/GOSAT Level 2 Products*” IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing JSTARS, 2014, [10.1109/JSTARS.2013.2276125](https://doi.org/10.1109/JSTARS.2013.2276125)

S. Del Bianco, B. Carli, M. Gai, L. Laurenza, U. Cortesi, “*XCO₂ retrieved from IASI using KLIMA algorithm*”, ANNALS OF GEOPHYSICS, 56, Fast Track-1, 2013; 10.4401/ag-6331

S. Del Bianco, U. Cortesi, M. Gai, L. Laurenza, F. Barbara, S. Ceccherini, P. Raspollini, B. Carli “*Inverse modeling of carbon dioxide total column from satellite-based passive remote sounding in the thermal infrared: current results and future developments using the KLIMA algorithm*”, 33rd EARSeL Symposium, 3-6 June 2013, Matera

U. Cortesi, S. Del Bianco, M. Gai, L.Laurenza “*Application of KLIMA/G-POD algorithm to CO₂ retrieval from IASI/METOP-A observations and comparison with GOSAT/TANSO-FTS products*” IGARSS2012, 22-27 luglio 2012, Monaco, Germania

L. Laurenza “*Synergetic use of satellite and ground-based data to analyze the characteristics of urban climate over Rome*” GCGW-11 Global Conference on Global Warming, Lisbon, Portugal 2011

(Autorizzo il trattamento dei dati personali ai sensi del D. lgs. 196/03”)

Lucia Maria Laurenza