



Martina Lagasio

Nationality: Italian | ██████████ |

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● WORK EXPERIENCE

12/06/2017 – CURRENT

RESEARCHER – CIMA RESEARCH FOUNDATION

Working on the use of Data Assimilation in high resolution Numerical Weather Prediction to improve forecast skill of extreme hydro-meteorological events, the investigation of lightning forecast performances in multi-microphysical cloud resolving simulations, Data Assimilation of water vapor measurements (GNSS and SAR) and Sentinel observations using WRF model. Contributed to the ESA Project STEAM – SaTellite Earth observation for Atmospheric Modelling (2017-2019), and Hydroterra science studies, devoted to the evaluation of Sentinel and GNSS observations assimilation in forecasting extreme events and about the impact study on the hydro-meteorological predictive capability of the data potentially provided by the new geostationary InSAR of the next generation Earth-Explorer. She collaborated to the operational meteorological modeling implementation and validation with data assimilation of the National radar data and she is currently working on the development of numerical weather modeling with data assimilation for nowcasting purposes. Currently working on H2020 Pilot 2 of E-SHAPE Disaster Resilience Showcase and, H2020 LEXIS project, H2020 SINOPTICA about the data assimilation of personal weather stations, radar and satellite data for different purposes.

Savona, Italy

2020 – CURRENT

OPERATIONAL FIRE FORECASTER FOR THE EU EMERGENCY RESPONSE COORDINATION CENTRE (ERCC) – CIMA RESEARCH FOUNDATION

EU ARISTOTLE project (<http://aristotle.ingv.it/tiki-index.php>)

20/09/2016 – CURRENT – Savona

TEACHING SUPPORT ACTIVITIES – UNIVERSITY OF GENOA

Exercises Course of Hydraulic Structure for Engineering bachelor degree students.

Savona, Italy

26/07/2012 – 06/09/2012 – Cengio (SV), Italy

INTERNSHIP – ENI SYNDIAL S.P.A.

Activities subsequent to the remediation work performed at the ex industrial site of ACNA of Cengio, management of the post-operam monitoring system for the development of critical skills in the data analysis.

Cengio (SV), Italy

● EDUCATION AND TRAINING

01/11/2015 – 22/05/2019 – Genova, Italy

PHD PROGRAM IN COMPUTER SCIENCE AND SYSTEMS ENGINEERING – Department of Informatics, Bioengineering, Robotics and System Engineering (DIBRIS)

Data assimilation in high resolution Numerical Weather Prediction model to improve forecast skill of extreme hydrometeorological events.

Excellent cum laude

17/07/2017 – 26/07/2017 – Boulder
SUMMER WRF BASIC AND DA TUTORIALS – NCAR Foothills Laboratory

The Basic tutorial consist of lectures on various components of the WRF modeling system along with hands-on practice sessions.

The WRFDA tutorial include lectures on a variety of topics on the full capability of the WRFDA system, along with hands-on practice sessions.

03/03/2016 – 15/03/2016 – Reading, United Kingdom
TRAINING COURSE ON DATA ASSIMILATION – University of Reading - European Center Medium Weather Forecast (ECMWF)

18/01/2016 – 12/06/2017 – Savona, Genoa, Italy
POSTGRADUATE SCHOLARSHIP – CIMA Research Foundation and Department of Informatics, Bioengineering, Robotics and System Enginee

Application of data assimilation techniques on lightning and radar data in high resolution Numerical Weather Prediction to improve forecast skill of extreme hydrometeorological events.

20/09/2013 – 29/10/2015 – Savona, Italy
MASTER DEGREE "ENVIRONMENTAL & ENERGY ENGINEERING" – University of Genoa

Master Thesis title: "Lightning flash activity indices as forecasting tool of high impact weather events over complex topography"

110 cum laude /110

19/07/2013 – Savona, Italy
DEGREE ENVIROMENTAL ENGINEERING – University of Genoa - Campus of Savona

Thesis:

"The remediation of a national interest site: the characterization plan to posto-peram monitoring. The case of the ex ACNA of Cengio"

110/110

04/2013 – Savona, Italy
TRAINING COURSE INAIL "THE HEALTH AND SAFETY IN THE WORKPLACE: MANAGEMENT SYSTEMS AND ENVIRONMENTAL – INAIL

Thesis:

"Management System of Health, Safety and Environment of a site remediation"

09/2004 – 07/2009 – Carcare (SV), Italy
SCIENTIFIC HIGH SCHOOL – Scientific high school S.Giuseppe Calasanzio

84/100

06/2008
FIRST CERTIFICATE IN ENGLISH – University of Cambridge ESOL Examination

Council of Europe Level B2

02/07/2007 – 22/07/2007 – Eastbourne, United Kingdom
EF LANGUAGE COURSE CERTIFICATE – EF Education

Livello B1

Level B1

Level A2 pass with merit

● LANGUAGE SKILLS

Mother tongue(s): ITALIAN

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	B2	B2	B2	B2
FRENCH	A2	B1	B1	B1	A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● DIGITAL SKILLS

Linux | Bash programming | Matlab | Microsoft Office | WRF meteorological model | Data Assimilation

● PUBLICATIONS

Publications

2017

- **Lagasio, M.**, A. Parodi, R. Procopio, F. Rachidi, and E. Fiori (2017), Lightning Potential Index performances in multimicrophysical cloud-resolving simulations of a back-building mesoscale convective system: The Genoa 2014 event, *J. Geophys. Res. Atmos.*, 122, 4238–4257, doi:10.1002/2016JD026115.

Publications

2019

- **Lagasio, M.**, Silvestro, F., Campo, L., & Parodi, A. (2019). Predictive capability of a high-resolution hydrometeorological forecasting framework coupling WRF cycling 3dvar and Continuum. *Journal of Hydrometeorology*, (2019).
- **Lagasio, M.**, Pulvirenti, L., Parodi, A., Boni, G., Pierdicca, N., Venuti, G., ... & Rommen, B. (2019). Effect of the ingestion in the WRF model of different Sentinel-derived and GNSS-derived products: analysis of the forecasts of a high impact weather event. *European Journal of Remote Sensing*, 1-18.
- **Lagasio, M.**, Parodi, A., Pulvirenti, L., Meroni, A. N., Boni, G., Pierdicca, N., ... & Gatti, A. (2019). A Synergistic Use of a High-Resolution Numerical Weather Prediction Model and High-Resolution Earth Observation Products to Improve Precipitation Forecast. *Remote Sensing*, 11(20), 2387.
- Parodi, A.; **Lagasio, M.**; Maugeri, M.; Turato, B.; Gallus, W. Observational and Modelling Study of a Major Downburst Event in Liguria: The 14 October 2016 Case. *Atmosphere* **2019**, 10, 788.
- Esposito, G.; Parodi, A.; **Lagasio, M.**; Masi, R.; Nanni, G.; Russo, F.; Alfano, S.; Giannatiempo, G. Characterizing consecutive flooding events after the 2017 Mt. Salto wildfires (southern Italy): hazard and emergency management implications, *Water*, 2019.

Publications

2020

- Burlando, M., Romanic, D., Boni, G., **Lagasio, M.**, & Parodi, A. (2020). Investigation of the Weather Conditions During the Collapse of the Morandi Bridge in Genoa on 14 August 2018 Using Field Observations and WRF Model. *Atmosphere*, 11(7), 724.
- Meroni, A. N., Montrasio, M., Venuti, G., Barindelli, S., Mascitelli, A., Manzoni, M., Monti Guarnieri, A. V., Gatti, A., **Lagasio, M.**, Parodi, A., Realini, E., Tagliaferro, G. (2020). On the definition of the strategy to obtain absolute InSAR Zenith Total Delay maps for meteorological applications. *Frontiers in Earth Science*, 8, 359.
- **Lagasio, M.**, Meroni, A. N., Boni, G., Pulvirenti, L., Monti-Guarnieri, A., Haagmans, R., ... & Parodi, A. (2020). Meteorological oses for new zenith total delay observations: Impact assessment for the hydroterra geosynchronous satellite on the october 2019 genoa event. *Remote Sensing*, 12(22), 3787.
- Parodi, A., **Lagasio, M.**, Meroni, A. N., Pignone, F., Silvestro, F., & Ferraris, L. (2020). A hindcast study of the Piedmont 1994 flood: the CIMA Research Foundation hydro-meteorological forecasting chain. *Bulletin of Atmospheric Science and Technology*, 1(3), 297-318.

Publications

2021

- Meroni, A. N., Oundo, K. A., Muita, R., Bopape, M. J., Maisha, T. R., **Lagasio, M.**, ... & Venuti, G. (2021). Sensitivity of some African heavy rainfall events to microphysics and planetary boundary layer schemes: Impacts on localised storms. *Quarterly Journal of the Royal Meteorological Society*.
- Apicella, L., Puca, S., **Lagasio, M.** et al. The predictive capacity of the high resolution weather research and forecasting model: a year-long verification over Italy. *Bull. of Atmos. Sci.& Technol.* 2, 3 (2021). <https://doi.org/10.1007/s42865-021-00032-x>

● CONFERENCES AND SEMINARS

2016 – 2017

Conferences

- Fiori, E., **M. Lagasio**, A. Parodi, R. Procopio, A. Smorgonskiy, F. Rachidi, and G. Diendorfer (2016), Implementation and performance analysis of the Lightning Potential Index as a forecasting tool, proceeding of 33rd International Conf. on Lightning Protection (ICLP), Estoril, Portugal.
- Azadifar, M., **M. Lagasio**, E. Fiori, F. Rachidi, M. Rubinstein, R. Procopio (2016): Occurrence of Downward and Upward Flashes at the Sântis Tower: Relationship with-10 degrees C Temperature Altitude, proceeding of European Electromagnetics International Symposium EUROEM 2016, London, UK, July 11-14, 2016.
- **Lagasio, M.**, A. Parodi, R. Procopio, F. Rachidi, and E. Fiori (2017), The use of a potential lightning index in multi-microphysical cloud-resolving simulations of a V-shape convective system, 19th EGU General Assembly, EGU2017, proceedings from the conference held 23-28 April, 2017 in Vienna, Austria., p.13766.

2018

Conferences

- **Lagasio, M.**, E. Fiori, and A. Parodi (2018), Dealing with uncertainty in V-shape back-building Mesoscale Convective Systems: sensitivity analysis on cycling 3dvar radar data assimilation for the Genoa 2014 case. In HyMeX conference, Lecce 29 May - 2 June 2018, Italy.
- Fiori, E., **M. Lagasio**, and A. Parodi (2018), Dealing with uncertainty in V-shape back-building Mesoscale Convective System high resolution modelling over the Ligurian Sea. In HyMeX conference, Lecce 29 May - 2 June 2018, Italy.
- Goga, K., Pilosu, L., Parodi, A., **Lagasio, M.**, & Terzo, O. (2018, July). Performance of WRF Cloud Resolving Simulations with Data Assimilation on Public Cloud and HPC Environments. In Conference on Complex, Intelligent, and Software Intensive Systems (pp. 161-171). Springer, Cham.
- Pulvirenti, L., A. Parodi, **M. Lagasio**, N. Pierdicca, F.S. Marzano, C. Riva, G. Venuti, E. Realini, E. Passera (2018), Use of Sentinel-1 and Sentinel-3 data to initialize a numerical weather model. In X Conference of the Italian Society of Remote Sensing (AIT2018), Firenze 4-6 July 2018, Italy.
- Parodi, A., L. Pulvirenti, **M. Lagasio**, N. Pierdicca, F.S. Marzano, C. Riva, G. Venuti, L. Pilosu, E. Realini, E. Passera, B. Rommen (2018), Ingestion of Sentinel-derived Remote Sensing Products in Numerical Weather Prediction Models: First Results of the ESA STEAM Project. In International Geoscience and Remote Sensing Symposium, Valencia, 22-27 July 2018, Spain.
- Pulvirenti L., A. Parodi, **M. Lagasio**, N. Pierdicca, G. Venuti, E. Realini, A. Gatti, S. Barindelli, E. Passera, B. Rommen (2018), Incorporating Sentinel-derived products into numerical weather models: the ESA STEAM project. SPIE Remote Sensing 2018, Berlin 10-13 September 2018.

- Scionti, A. J. Martinovic,, O. Terzo, E. Walter, M. Levrier, S. Hachinger, D. Magarielli, T. Goubier, S. Louise, A. Parodi, S. Murphy, C. D'Amico, S. Ciccìa, E. Danovaro, **M. Lagasio**, F. Donnat, M. Golasowski, T. Quintino, J. Hawkes, T. Martinovic, L. Riha, K. Slaninova, S. Serra, R. Peveri (2019, July). HPC, cloud and big-data convergent architectures: the LEXIS approach. In *Conference on Complex, Intelligent, and Software Intensive Systems* (pp. 200-212). Springer, Cham.
- Lubrano, F., Goga, K., Terzo, O., Parodi, A., & **Lagasio, M.** (2019, July). Analysis of Job Scheduling Techniques in a HPC Cluster Deployed in a Public Cloud. In *Conference on Complex, Intelligent, and Software Intensive Systems* (pp. 886-895). Springer, Cham.
- Parodi, A., Danovaro, E., Hawkes, J., Quintino, T., **Lagasio, M.**, Delogu, F., ... & Mazzoglio, P. (2020, July). LEXIS Weather and Climate Large-Scale Pilot. In *Conference on Complex, Intelligent, and Software Intensive Systems* (pp. 267-277). Springer, Cham.
- **Lagasio, M.**, Meroni, A. N., Pulvirenti, L., Squicciarino, G., Parodi, A., Tsouni, A., ... & Bartsotas, N. (2020, May). Sentinel products assimilation in a complete hydro/fire-meteorological chain: nearly operational experiments in the framework of the E-SHAPE project. In *EGU General Assembly Conference Abstracts* (p. 7168).
- Barindelli, S., Gatti, A., **Lagasio, M.**, Manzoni, M., Mascitelli, A., Monti Guarnieri, A., ... & Venuti, G. (2020, May). From InSAR derived relative tropospheric Slant Total Delay maps to absolute Zenith Total Delay maps: comparisons between tropospheric delay products to define a strategy for meteorological applications. In *EGU General Assembly Conference Abstracts* (p. 17920).
- Poletti, M. L., **Lagasio, M.**, Silvestro, F., Parodi, A., Pignone, F., & Rebora, N. (2020, May). Using a precipitation nowcasting algorithm and 3DVAR assimilation in a cloud resolving Numerical Weather Prediction system to enhance a hydrometeorological nowcasting chain. In *EGU General Assembly Conference Abstracts* (p. 18229).
- Rigo, T., Llasat, M. D. C., Esbri, L., Parodi, A., Temme, M. M., Gluchshenko, O., ... **M. Lagasio...** & Parodi, A. (2021). SINOPTICA: A project of analysis of hail affectation on Air Traffic Management.
- Parodi, A., Temme, M., Gluchshenko, O., Kerschbaum, M., Surian, N., Biondi, R., ... **M. Lagasio...** & Parodi, A. (2021, April). H2020 SINOPTICA (Satellite-borne and IN-situ Observations to Predict The Initiation of Convection for ATM) project: initial results. In *EGU General Assembly Conference Abstracts* (pp. EGU21-891).
- Meroni, A. N., Mascitelli, A., Barindelli, S., Petrushevsky, N., Manzoni, M., Molinari, M. E., ... **M. Lagasio...** & Venuti, G. (2021, April). Towards the integration of GNSS, SAR and NWP for heavy rainfall forecast in sub-Saharan Africa within the TWIGA project. In *EGU General Assembly Conference Abstracts* (pp. EGU21-5704).
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● **COMMUNICATION AND INTERPERSONAL SKILLS**

Communication and interpersonal skills

Good communication skills developed during the years of study and team working