

PAOLO TUCCELLA - Curriculum vitae

Education and training

- 20/03/2013:** Ph. D. in Physics at University of L'Aquila, L'Aquila, Italy.
 - *Thesis:* Influence of aerosols on the cloud characteristics of Europe: study with the meteorology-chemistry-radiation coupled eulerian model WRF/Chem.
 - *Supervisors:* Prof. Gabriele Curci and Prof. Guido Visconti.
- 07/10/2009:** Master degree in Physics at the University of L'Aquila, L'Aquila, Italy.
 - *Thesis:* Feedback processes in the aerosols-cloud system: the first application over Europe of the meteorology-chemistry-radiation coupled model WRF/Chem.
 - *Supervisors:* Prof. Gabriele Curci and Prof. Guido Visconti.
- 20/12/2006:** Bachelor degree in Physics at the University of L'Aquila, L'Aquila, Italy.
 - *Thesis:* Hurricane numerical models.
 - *Supervisor:* Prof. Guido Visconti.
- July 2002:** School-leaving certificate (high school degree) at Liceo Scientifico Statale "G. Galilei" Pescara, National plan of mathematics and Computer Sciences.

Working experience

- 01/02/2021 - today:** Fixed-term researcher (type B, according to Italian law No. 240/2010) at Department of Physical and Chemical Sciences of the University of L'Aquila.
- 05/06/2017 – 31/01/2021:** Fixed-term researcher (type A, according to Italian law No. 240/2010) at Department of Physical and Chemical Sciences of the University of L'Aquila.
- 01/09/2016 – 28/02/2017:** Permanently "Research Engineer" for the NUMTECH enterprise (Aubiére, France), with workplace at the "Laboratory of Dynamic Meteorology" of Ecole Polytechnique (Paris, France).
- 01/03/2015 – 31/08/2016:** Fixed-term "Research Engineer" for the NUMTECH enterprise (Aubiére, France), with workplace at the "Laboratory of Dynamic Meteorology" of Ecole Polytechnique (Paris, France), under the supervision of Dr. Laurent Menut, in the framework of *DeseRt dUst Modeling* (DRUMS) project, funded by the French National Agency for Research (ANR).
- 01/10/2013 – 28/02/2015:** Postdoc at Pierre et Marie Curie University (Paris, France), under the supervision of Dr. Kathy Law in the framework of the European project "*Arctic Climate Change Economy and Society*" (ACCESS).
- 01/02/2013 – 30/09/2013:** Postdoc at the University of L'Aquila, under the supervision of Prof. Gabriele Curci, in the framework of the *Synergistic use of PRISMA products with high-resolution meteo-chemical modeling and their validation at ground and from satellite* (PRIMES), funded by the Italian Space Agency (ASI).

Other working experience

- 6/01/2019-31/01/2019:** Visiting researcher at "Laboratory of Dynamic Meteorology" of Ecole Polytechnique (Paris, France).
- 01/10/2011 - 01/04/2012:** Visiting Student at the National Oceanic and Atmospheric Administration (NOAA) - Boulder (Colorado, USA), Global System Division (Data Assimilation Branch), under the supervision of Dr. Georg Grell.

Activities in collaboration with national and international research groups

- January 2020 - today:** involvement in the experiment *DUst Source Attribution* (DUSA), organized by the "Aerosols comparison between Observations and Models" (AeroCom) community.
- July 2019 – today:** organization and collaboration with the Italian Prime Minister Office, Italian Glaciology Committee, University of "Roma Tre", University of Perugia and Italian National Research Council for the monitoring and historical reconstruction of the Calderone Glacier extension on the Gran Sasso d'Italia.
- December 2018 – today:** involvement in the *Interactive Stratospheric Aerosol Model Intercomparison Project* (ISA-MIP) project.
- October 2017 – today:** involvement in the experiment *Anthropogenic Dust* (AnthroDust), organized by the "Aerosols comparison between Observations and Models" (AeroCom) community.

5. **March 2015 – today:** involvement in the international group for the development of the chemistry and transport model CHIMERE.
6. **October 2011 – today:** involvement in the international group for the development of the chemistry and transport model WRF/Chem.
7. **2014-2018:** involvement in the third phase of the international project *Air Quality Model Evaluation International Initiative* (AQMEII-3).
8. **2012-2014:** involvement in the second phase of *Air Quality Model Evaluation International Initiative* (AQMEII) project.

Funded research projects

1. **26 May 2021 - Today:** Scientific coordinator for Center of Excellence for Telesensing of Environment and Model Prediction of Severe Events (CETEMPS) University of L'Aquila (lead beneficiary: University of Rome "La Sapienza") for the project "*Snow-coverage Modeling, Inversion and Validation using multi-mission multi-frequency Interferometric SAR in central Apennine*" (SMIVIA), funded in the framework of the Italian Space Agency research announcement on "Study of new methods and techniques based on multimission/multifrequency SAR" (project amount: 378000 €, amount allocated to CETEMPS: 66000 €).
2. **June 2016:** winning of the biennial grant "AXA Research Fund", with the project entitled "*Modeling of radiation-absorbing atmospheric aerosols and evaluation of their direct and indirect radiative forcing on climate*". (Grant amount: 130000 €)

Editorial activity

1. **28 November 2019 – today:** Topic Editor for *Atmosphere* (ISSN 2073-4433).
2. **1st November 2018 – 31st August 2019:** Guest Editor for the Special Issue "*Development, Evaluation, and Applications of Online Coupled Meteorology–Chemistry Models*", for *Atmosphere* (ISSN 2073-4433).
3. **2018 – today:** Reviewer for *Atmosphere* (ISSN 2073-4433).

Teaching assignments

1. **A.Y. 2020/2021:** fulfilment as appointed for the class of "*Fundamentals of Physics*" (Dept. of Civil, Construction-Architectural and Environmental Engineering, bachelor course on "Civil protection techniques and territorial safety"), University of L'Aquila, 60 hrs.
2. **A.Y. 2020/2021:** fulfilment as second teacher of "*Atmospheric Physics with Laboratory*" (Dept. of Clinical Medicine, Public Health, Life and Environmental Sciences, bachelor course on Environmental Sciences), University of L'Aquila, 24 hrs.
3. **A.Y. 2019/2020:** fulfilment as appointed for the class of "*Environmental data analysis with laboratory*" (Dept. of Clinical Medicine, Public Health, Life and Environmental Sciences, bachelor course on Environmental Sciences), University of L'Aquila, 84 hrs.
4. **A.Y. 2018/2019:** fulfilment as appointed for the class of "*Environmental data analysis with laboratory*" (Dept. of Clinical Medicine, Public Health, Life and Environmental Sciences, bachelor course on Environmental Sciences), University of L'Aquila, 60 hrs.
5. **A.Y. 2018/2019:** fulfilment as appointed for classes on "*Physics*" in the framework of OFA courses (Additional Educational Obligations) for the Dept. of Applied Clinical Sciences and Biotechnology, bachelor course in Biotechnology and Biological Sciences, University of L'Aquila, 8 hrs.
6. **A.Y. 2017/2018:** fulfilment as appointed for the class of "*Environmental data analysis with laboratory*" (Dept. of Clinical Medicine, Public Health, Life and Environmental Sciences, bachelor course on Environmental Sciences), University of L'Aquila, 60 hrs.

Supervision for degree courses and Ph.D.

1. **January-July:** supervisor for thesis student Alessia Spezza (bachelor course on Environmental Sciences). Thesis title: "*Application and evaluation of snow albedo parameterizations in site of Gran Sasso d'Italia*".
2. **May 2020 – October 2020:** co-supervisor for thesis student Ludovico Di Antonio, in the framework of the International master degree in Atmospheric Science and Technology (Dept. of Physical and Chemical Sciences of University of L'Aquila). Thesis title: "*Radiative effects by carbonaceous aerosols on the Euro-Mediterranean region*". (Supervisor: Prof. Gabriele Curci).
3. **November 2018 – today:** co-supervisor for Ph.D thesis student Edoardo Raparelli (PhD. Course in Information and Communication Technology, University of Rome "La Sapienza", workplace at

CETEMPS, University of L'Aquila). Thesis topic is about snowpack numerical modelling. (Supervisor: Prof. Frank Silvio Marzano, University of di Rome "La Sapienza").

Publications on international peer-reviewed journals

1. **Tuccella, P.**, Pitari, G., Colaiuda, V., Raparelli, E., and Curci, G.: *Present-day radiative effect from radiation-absorbing aerosols in snow*, *Atmos. Chem. Phys.*, 21, 6875–6893, <https://doi.org/10.5194/acp-21-6875-2021>, 2021.
2. A. Deroubaix, G. Brasseur, B. Gaubert, I. Labuhn, L. Menut, G. Siour, **P. Tuccella**: *Response of surface ozone concentration to emission reduction and meteorology during the COVID-19 lockdown in Europe*, *Meteorological Applications*, 28:e1990, <https://doi.org/10.1002/met.1990>, 2021.
3. Di Giacinto, F., Berti, M., Carbone, L., Caprioli, R., Colaiuda, V., Lombardi, A., Tomassetti, B., **Tuccella, P.**, De Iuliis, G., Pietroleonardo, A., Latini, M., Mascilongo, G., Di Renzo, L., D'Alterio, N., Ferri, N.: *Biological Early Warning Systems: The Experience in the Gran Sasso-Sirente Aquifer*, *Water*, 13, 1529, <https://doi.org/10.3390/w13111529>, 2021.
4. **Tuccella, Paolo**, Curci, Gabriele, Pitari, Giovanni, Lee, Seungun, Jo, Duseong S. (2020). *Direct radiative effect of absorbing aerosols: sensitivity to mixing state, brown carbon and soil dust refractive index and shape*. *Journal of Geophysical Research, Atmospheres*, doi: 10.1029/2019JD030967.
5. **Paolo Tuccella**, Laurent Menut, Régis Briant, Adrien Deroubaix, Dmitry Khvorostyanov, Sylvain Mailler, Guillaume Siour and Solène Turquety (2019). *Implementation of Aerosol-Cloud Interaction within WRF-CHIMERE Online Coupled Model: Evaluation and Investigation of the Indirect Radiative Effect from Anthropogenic Emission Reduction on the Benelux Union*. *Atmosphere*, doi.org/10.3390/atmos10010020.
6. Menut L., **Tuccella P.**, Flamant C., Deroubaix A., and Gaetani (2019). *The role of aerosol–radiation–cloud interactions in linking anthropogenic pollution over southern west Africa and dust emission over the Sahara*. *Atmospheric Chemistry and Physics*, doi: 10.5194/acp-19-14657-2019.
7. Laura Palacios-Peña, Pedro Jiménez-Guerrero¹, Rocío Baró, Alessandra Balzarini, Roberto Bianconi, Gabriele Curci, Tony Christian Landi, Guido Pirovano, Marje Prank, Angelo Riccio, **Paolo Tuccella**, and Stefano Galmarini (2019). *Aerosol optical properties over Europe: an evaluation of the AQMEII Phase 3 simulations against satellite observations*. *Atmospheric Chemistry and Physics*, doi: 10.5194/acp-19-2965-2019.
8. Curci, Gabriele, Alyuz, Ummugulsum, Barò, Rocio, Bianconi, Roberto, Bieser, Johannes, Christensen, Jesper H., Colette, Augustin, Farrow, Aidan, Francis, Xavier, Jiménez-Guerrero, Pedro, Im, Ulas, Liu, Peng, Manders, Astrid, Palacios-Peña, Laura, Prank, Marje, Pozzoli, Luca, Sokhi, Ranjeet, Solazzo, Efisio, **Tuccella, Paolo**, Unal, Alper, Vivanco, Marta G., Hogrefe, Christian, Galmarini, Stefano (2019). *Modelling black carbon absorption of solar radiation: combining external and internal mixing assumptions*. *Atmospheric Chemistry and Physics*, vol. 19, p. 181-204, doi: 10.5194/acp-19-181-2019.
9. Visioni, Daniele, Pitari, Giovanni, **Tuccella, Paolo**, Curci, Gabriele (2018). *Sulfur deposition changes under sulfate geoengineering conditions: quasi-biennial oscillation effects on the transport and lifetime of stratospheric aerosols*. *Atmospheric Chemistry and Physics*, vol. 18, p. 2787-2808, doi: 10.5194/acp-18-2787-2018.
10. Im, Ulas, Brandt, Jørgen, Geels, Camilla, Hansen, Kaj Mantzius, Christensen, Jesper Heile, Andersen, Mikael Skou, Solazzo, Efisio, Kioutsioukis, Ioannis, Alyuz, Ummugulsum, Balzarini, Alessandra, Baro, Rocio, Bellasio, Roberto, Bianconi, Roberto, Bieser, Johannes, Colette, Augustin, Curci, Gabriele, Farrow, Aidan, Flemming, Johannes, Fraser, Andrea, Jimenez-Guerrero, Pedro, Kitwiroon, Nutthida, Liang, Ciao-Kai, Nopmongcol, Uarporn, Pirovano, Guido, Pozzoli, Luca, Prank, Marje, Rose, Rebecca, Sokhi, Ranjeet, **Tuccella, Paolo**, Unal, Alper, Garcia Vivanco, Marta, West, Jason, Yarwood, Greg, Hogrefe, Christian, Galmarini, Stefano (2018). *Assessment and economic valuation of air pollution impacts on human health over Europe and the United States as calculated by a multi-model ensemble in the framework of AQMEII3*. *Atmospheric Chemistry and Physics*, vol. 18, p. 5967-5989, doi: 10.5194/acp-18-5967-2018.
11. Rocío Baró, Pedro Jiménez-Guerrero, Martin Stengel, Dominik Brunner, Gabriele Curci, Renate Forkel, Lucy Neal, Laura Palacios-Peña, Nicholas Savage, Martijn Schaap, **Paolo Tuccella**, Hugo Denier van der Gon, and Stefano Galmarini (2018). *Evaluating cloud properties in an ensemble of regional online coupled models against satellite observations*. *Atmospheric Chemistry and Physics*, vol. 18, p. 15183-15199, doi: 10.5194/acp-18-15183-2018.
12. Im, Ulas, Christensen, Jesper Heile, Geels, Camilla, Hansen, Kaj Mantzius, Brandt, Jørgen, Solazzo, Efisio, Alyuz, Ummugulsum, Balzarini, Alessandra, Baro, Rocio, Bellasio, Roberto, Bianconi, Roberto, Bieser, Johannes, Colette, Augustin, Curci, Gabriele, Farrow, Aidan, Flemming, Johannes, Fraser, Andrea,

- Jimenez-Guerrero, Pedro, Kitwiroon, Nutthida, Liu, Peng, Nopmongcol, Uarporn, Palacios-Peña, Laura, Pirovano, Guido, Pozzoli, Luca, Prank, Marje, Rose, Rebecca, Sokhi, Ranjeet, **Tuccella, Paolo**, Unal, Alper, Vivanco, Marta G., Yarwood, Greg, Hogrefe, Christian, Galmarini, Stefano (2018). *Influence of anthropogenic emissions and boundary conditions on multi-model simulations of major air pollutants over Europe and North America in the framework of AQMEII3*. Atmospheric Chemistry and Physics, vol. 18, p. 8929-8952, doi: 10.5194/acp-18-8929-2018.
13. Galmarini, Stefano, Kioutsioukis, Ioannis, Solazzo, Efisio, Alyuz, Ummugulsum, Balzarini, Alessandra, Bellasio, Roberto, Benedictow, Anna M. K., Bianconi, Roberto, Bieser, Johannes, Brandt, Joergen, Christensen, Jesper H., Colette, Augustin, Curci, Gabriele, Davila, Yanko, Dong, Xinyi, Flemming, Johannes, Francis, Xavier, Fraser, Andrea, Fu, Joshua, Henze, Daven K., Hogrefe, Christian, Im, Ulas, Garcia Vivanco, Marta, Jiménez-Guerrero, Pedro, Jonson, Jan Eiof, Kitwiroon, Nutthida, Manders, Astrid, Mathur, Rohit, Palacios-Peña, Laura, Pirovano, Guido, Pozzoli, Luca, Prank, Marie, Schultz, Martin, Sokhi, Rajeev S., Sudo, Kengo, **Tuccella, Paolo**, Takemura, Toshihiko, Sekiya, Takashi, Unal, Alper (2018). *Two-scale multi-model ensemble: is a hybrid ensemble of opportunity telling us more?*. Atmospheric Chemistry and Physics, vol. 18, p. 8727-8744, doi: 10.5194/acp-18-8727-2018.
 14. **Tuccella, P.**, Thomas, J. L., Law, K. S., Raut, J. C., Marelle, L., Roiger, A., Weinzierl, B., Denier van der Gon, H. A. C., Schlager, H., Onishi, T. (2017). *Air pollution impacts due to petroleum extraction in the Norwegian Sea during the ACCESS aircraft campaign*. Elementa, vol. 5, doi: 10.1525/elementa.124.
 15. Régis Briant, **Paolo Tuccella**, Adrien Deroubaix, Dmitry Khvorostyanov, Laurent Menut, Sylvain Mailler, and Solène Turquety (2017). *Aerosol–radiation interaction modelling using online coupling between the WRF 3.7.1 meteorological model and the CHIMERE 2016 chemistry-transport model, through the OASIS3-MCT coupler*. Geoscientific Model Development, doi: 10.5194/gmd-10-927-2017.
 16. Mailler, Sylvain, Menut, Laurent, Khvorostyanov, Dmitry, Valari, Myrto, Couvidat, Florian, Siour, Guillaume, Turquety, Solène, Briant, Régis, **Tuccella, Paolo**, Bessagnet, Bertrand, Colette, Augustin, Létinois, Laurent, Markakis, Kostantinos, Meleux, Frédéric (2017). *CHIMERE-2017: from urban to hemispheric chemistry-transport modeling*. Geoscientific Model Development, vol. 10, p. 2397-2423, doi: 10.5194/gmd-10-2397-2017.
 17. Kathy S. Law, Anke Roiger, Jennie L. Thomas, Louis Marelle, Jean-Christophe Raut, Stig Dalsøren, Jan Fuglestedt, **Paolo Tuccella**, Bernadett Weinzierl, Hans Schlager (2017). *Local Arctic air pollution: Sources and impacts*. Ambio, doi: 10.1007/s13280-017-0962-2.
 18. Solazzo, Efisio, Bianconi, Roberto, Hogrefe, Christian, Curci, Gabriele, **Tuccella, Paolo**, Alyuz, Ummugulsum, Balzarini, Alessandra, Baro, Rocio, Bellasio, Roberto, Bieser, Johannes, Brandt, Jorgen, Christensen, Jesper H., Colette, Augustin, Francis, Xavier, Fraser, Andrea, Garcia Vivanco, Marta, Jiménez Guerrero, Pedro, Im, Ulas, Manders, Astrid, Nopmongcol, Uarporn, Kitwiroon, Nutthida, Pirovano, Guido, Pozzoli, Luca, Prank, Marje, Sokhi, Ranjeet S., Unal, Alper, Yarwood, Greg, Galmarini, Stefano (2017). *Evaluation and error apportionment of an ensemble of atmospheric chemistry transport modeling systems: Multivariable temporal and spatial breakdown*. Atmospheric Chemistry and Physics, vol. 17, p. 3001-3054, doi: 10.5194/acp-17-3001-2017.
 19. Teixeira, J. C., Carvalho, A. C., **Tuccella, Paolo**, Curci, Gabriele, Rocha, A. (2016). *WRF-chem sensitivity to vertical resolution during a saharan dust event*. Physics and Chemistry of the Earth, vol. 94, p. 188-195, doi: 10.1016/j.pce.2015.04.002.
 20. Kioutsioukis, Ioannis, Im, Ulas, Solazzo, Efisio, Bianconi, Roberto, Badia, Alba, Balzarini, Alessandra, Baró, Rocío, Bellasio, Roberto, Brunner, Dominik, Chemel, Charles, Curci, Gabriele, Van Der Gon, Hugo Denier, Flemming, Johannes, Forkel, Renate, Giordano, Lea, Jiménez Guerrero, Pedro, Hirtl, Marcus, Jorba, Oriol, Manders Groot, Astrid, Neal, Lucy, Pérez, Juan L., Pirovano, Guidio, San Jose, Roberto, Savage, Nicholas, Schroder, Wolfram, Sokhi, Ranjeet S., Syrakov, Dimiter, **Tuccella, Paolo**, Werhahn, Johannes, Wolke, Ralf, Hogrefe, Christian, Galmarini, Stefano (2016). *Insights into the deterministic skill of air quality ensembles from the analysis of AQMEII data*. Atmospheric Chemistry and Physics, vol. 16, p. 15629-15652, doi: 10.5194/acp-16-15629-2016.
 21. **Tuccella, Paolo**, Curci, Gabriele, Grell, G. A., Visconti, Guido, Crumeyrolle, S., Schwarzenboeck, A., Mensah, A. A. (2015). *A new chemistry option in WRF-Chem v. 3.4 for the simulation of direct and indirect aerosol effects using VBS: Evaluation against IMPACT-EUCAARI data*. Geoscientific Model Development, vol. 8, p. 2749-2776, doi: 10.5194/gmd-8-2749-2015.
 22. Knote, Christoph, **Tuccella, Paolo**, Curci, Gabriele, Emmons, Louisa, Orlando, John J., Madronich, Sasha, Baró, Rocio, Jiménez Guerrero, Pedro, Luecken, Deborah, Hogrefe, Christian, Forkel, Renate, Werhahn,

- Johannes, Hirtl, Marcus, Pérez, Juan L., San José, Roberto, Giordano, Lea, Brunner, Dominik, Yahya, Khairunnisa, Zhang, Yang (2015). *Influence of the choice of gas-phase mechanism on predictions of key gaseous pollutants during the AQMEII phase-2 intercomparison*. Atmospheric Environment, vol. 115, p. 553-568, doi: 10.1016/j.atmosenv.2014.11.066.
23. Curci, Gabriele, Ferrero, L., **Tuccella, Paolo**, Barnaba, F., Angelini, F., Bolzacchini, E., Carbone, C., Denier Van Der Gon, H. A. C., Facchini, M. C., Gobbi, G. P., Kuenen, J. P. P., Landi, T. C., Perrino, C., Perrone, M. G., Sangiorgi, G., Stocchi, P. (2015). *How much is particulate matter near the ground influenced by upper-level processes within and above the PBL? A summertime case study in Milan (Italy) evidences the distinctive role of nitrate*. Atmospheric Chemistry and Physics, vol. 15, p. 2629-2649, doi: 10.5194/acp-15-2629-2015.
 24. Tirelli, Cecilia, Curci, Gabriele, Manzo, Ciro, **Tuccella, Paolo**, Bassani, Cristiana (2015). *Effect of the aerosol model assumption on the atmospheric correction over land: Case studies with CHRIS/PROBA hyperspectral images over Benelux*. Remote Sensing, vol. 7, p. 8391-8415, doi: 10.3390/rs70708391.
 25. Kong, Xin, Forkel, Renate, Sokhi, Ranjeet S., Suppan, Peter, Baklanov, Alexander, Gauss, Michael, Brunner, Dominik, Barò, Rocío, Balzarini, Alessandra, Chemel, Charles, Curci, Gabriele, Jiménez Guerrero, Pedro, Hirtl, Marcus, Honzak, Luka, Im, Ulas, Pérez, Juan L., Pirovano, Guido, San Jose, Roberto, Schlunzen, K. Heinke, Tsegas, George, **Tuccella, Paolo**, Werhahn, Johannes, Žabkar, Rahela, Galmarini, Stefano (2015). *Analysis of meteorology-chemistry interactions during air pollution episodes using online coupled models within AQMEII phase-2*. Atmospheric Environment, vol. 115, p. 527-540, doi: 10.1016/j.atmosenv.2014.09.020.
 26. Forkel, Renate, Balzarini, Alessandra, Baró, Rocío, Bianconi, Roberto, Curci, Gabriele, Jiménez Guerrero, Pedro, Hirtl, Marcus, Honzak, Luka, Lorenz, Christof, Im, Ulas, Pérez, Juan L., Pirovano, Guido, San José, Roberto, **Tuccella, Paolo**, Werhahn, Johannes, Žabkar, Rahela (2015). *Analysis of the WRF-Chem contributions to AQMEII phase2 with respect to aerosol radiative feedbacks on meteorology and pollutant distributions*. Atmospheric Environment, vol. 115, p. 630-645, doi: 10.1016/j.atmosenv.2014.10.056
 27. Brunner, Dominik, Savage, Nicholas, Jorba, Oriol, Eder, Brian, Giordano, Lea, Badia, Alba, Balzarini, Alessandra, Baró, Rocío, Bianconi, Roberto, Chemel, Charles, Curci, Gabriele, Forkel, Renate, Jiménez Guerrero, Pedro, Hirtl, Marcus, Hodzic, Alma, Honzak, Luka, Im, Ulas, Knote, Christoph, Makar, Paul, Manders Groot, Astrid, van Meijgaard, Erik, Neal, Lucy, Pérez, Juan L., Pirovano, Guido, San Jose, Roberto, Schröder, Wolfram, Sokhi, Ranjeet S., Syrakov, Dimiter, Torian, Alfreida, **Tuccella, Paolo**, Werhahn, Johannes, Wolke, Ralf, Yahya, Khairunnisa, Zabkar, Rahela, Zhang, Yang, Hogrefe, Christian, Galmarini, Stefano (2015). *Comparative analysis of meteorological performance of coupled chemistry-meteorology models in the context of AQMEII phase 2*. Atmospheric Environment, vol. 115, p. 470-498, doi: 10.1016/j.atmosenv.2014.12.032.
 28. Giordano, L, Brunner, D., Flemming, J., Hogrefe, C., Im, U., Bianconi, R., Badia, A., Balzarini, A., Baró, R., Chemel, C., Curci, Gabriele, Forkel, R., Jiménez Guerrero, P., Hirtl, M., Hodzic, A., Honzak, L., Jorba, O., Knote, C., Kuenen, J. J. P., Makar, P. A., Manders Groot, A., Neal, L., Pérez, J. L., Pirovano, G., Pouliot, G., San José, R., Savage, N., Schröder, W., Sokhi, R. S., Syrakov, D., Torian, A., **Tuccella, Paolo**, Werhahn, J., Wolke, R., Yahya, K., Žabkar, R., Zhang, Y., Galmarini, S. (2015). *Assessment of the MACC reanalysis and its influence as chemical boundary conditions for regional air quality modeling in AQMEII-2*. Atmospheric Environment, vol. 115, p. 371-388, doi: 10.1016/j.atmosenv.2015.02.034.
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 30. Im, Ulas, Bianconi, Roberto, Solazzo, Efisio, Kioutsioukis, Ioannis, Badia, Alba, Balzarini, Alessandra, Baró, Rocío, Bellasio, Roberto, Brunner, Dominik, Chemel, Charles, Curci, Gabriele, Denier van der Gon,

- Hugo, Flemming, Johannes, Forkel, Renate, Giordano, Lea, Jiménez Guerrero, Pedro, Hirtl, Marcus, Hodzic, Alma, Honzak, Luka, Jorba, Oriol, Knote, Christoph, Makar, Paul A., Manders Groot, Astrid, Neal, Lucy, Pérez, Juan L., Pirovano, Guido, Pouliot, George, San Jose, Roberto, Savage, Nicholas, Schroder, Wolfram, Sokhi, Ranjeet S., Syrakov, Dimiter, Torian, Alfreida, **Tuccella, Paolo**, Wang, Kai, Werhahn, Johannes, Wolke, Ralf, Zabkar, Rahela, Zhang, Yang, Zhang, Junhua, Hogrefe, Christian, Galmarini, Stefano (2015). *Evaluation of operational online-coupled regional air quality models over Europe and North America in the context of AQMEII phase 2. Part II: Particulate matter*. Atmospheric Environment, vol. 115, p. 421-441, doi: 10.1016/j.atmosenv.2014.08.072.
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 32. Makar, P. A, Gong, W., Hogrefe, C., Zhang, Y., Curci, Gabriele, Žabkar, R., Milbrandt, J., Im, U., Balzarini, A., Baró, R., Bianconi, R., Cheung, P., Forkel, R., Gravel, S., Hirtl, M., Honzak, L., Hou, A., Jiménez Guerrero, P., Langer, M., Moran, M. D., Pabla, B., Pérez, J. L., Pirovano, G., San José, R., **Tuccella, Paolo**, Werhahn, J., Zhang, J., Galmarini, S. (2015). *Feedbacks between air pollution and weather, part 2: Effects on chemistry*. Atmospheric Environment, vol. 115, p. 499-526, doi: 10.1016/j.atmosenv.2014.10.021.
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 34. San José, R, Pérez, J. L., Balzarini, A., Baró, R., Curci, Gabriele, Forkel, R., Galmarini, S., Grell, G., Hirtl, M., Honzak, L., Im, U., Jiménez Guerrero, P., Langer, M., Pirovano, G., **Tuccella, Paolo**, Werhahn, J., Žabkar, R. (2015). *Sensitivity of feedback effects in CBMZ/MOSAIC chemical mechanism*. Atmospheric Environment, vol. 115, p. 646-656, doi: 10.1016/j.atmosenv.2015.04.030.
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 36. Balzarini, A, Pirovano, G., Honzak, L., Žabkar, R., Curci, Gabriele, Forkel, R., Hirtl, M., San José, R., **Tuccella, P.**, Grell, G. A. (2015). *WRF-Chem model sensitivity to chemical mechanisms choice in reconstructing aerosol optical properties*. Atmospheric Environment, vol. 115, p. 604-619, doi: 10.1016/j.atmosenv.2014.12.033.
 37. Di Carlo, Piero, Aruffo E., Biancofiore F., Busilacchio M., Pitari, Giovanni, Dari Salisburgo C., **Tuccella, P.**, Kajii Y. (2015). *Wildfires impact on surface nitrogen oxides and ozone in Central Italy*. Atmospheric Pollution Research, vol. 6, p. 29-35, doi: 10.5094/APR.2015.004.
 38. Pitari G., Di Carlo P., Coppari E., De Luca N., Di Genova G., Iarlori M., Pietropaolo E., Rizi V., **Tuccella P.** (2013). *Aerosol measurements at L'Aquila EARLINET station in central Italy: Impact of local sources and large scale transport resolved by LIDAR*. Journal of Atmospheric and Solar-Terrestrial Physics, vol. 92, p. 116-123, doi: 10.1016/j.jastp.2012.11.004.
 39. Cristofanelli P., Di Carlo P., Dari Salisburgo C., **Tuccella P.**, Biancofiore F., Stocchi P., Verza G. P., Landi T. C., Marinoni A., Calzolari F., Duchi R., Bonasoni, P. (2013). *Analysis of Summer Ozone Observations at a High Mountain Site in Central Italy (Campo Imperatore, 2388 m a.s.l.)*. Pure and Applied Geophysics, doi: 10.1007/s00024-012-0630-1.
 40. Curci, Gabriele, Cinque, Giovanni, **Tuccella, Paolo**, Visconti, Guido, Verdecchia, Marco, Iarlori, Marco, Rizi, Vincenzo (2013). *corrigendum to "Modelling air quality impact of a biomass energy power plant in a mountain valley in Central Italy"*. Atmospheric Environment, vol. 81, p. 716-717, doi: 10.1016/j.atmosenv.2013.09.037.

41. **Tuccella, Paolo**, Curci, Gabriele, Visconti, Guido, Bessagnet, B, Menut, L, Park, R. J. (2012). *Modelling of gas and aerosol with WRF/Chem over Europe: evaluation and sensitivity study*. Journal of Geophysical Research, vol. 117, doi: 10.1029/2011JD016302.
42. Curci Gabriele, Cinque Giovanni, **Tuccella Paolo**, Visconti Guido, Verdecchia Marco, Iarlori Marco, Rizi Vincenzo (2012). *Modelling air quality impact of a biomass energy power plant in a mountain valley in Central Italy*. Atmospheric Environment, vol. 62, p. 248-255, doi: 10.1016/j.atmosenv.2012.08.005.

Peer-reviewed proceedings

1. Im U., Brandt J., Geels C., Hansen K. M., Christensen J. H., Andersen M. S., Solazzo E., Kioutsioukis I., Alyuz U., Balzarini A., Baro R., Bellasio R., Bianconi R., Bieser J., Colette A., Curci G., Farrow A., Flemming J., Fraser A., Jimenez-Guerrero P., Kitwiroon N., Liang C. -K., Nopmongcol U., Pirovano G., Pozzoli L., Prank M., Rose R., Sokhi R., **Tuccella P.**, Unal A., Vivanco M. G., West J., Yarwood G., Hogrefe C., Galmarini S. (2020). *Multi-model Assessment of Air Pollution-Related Premature Mortality in Europe and U.S.: Domestic Versus Foreign Contributions*. In: (a cura di): Mensink C., Gong W., Hakami A., 36th Air Pollution Modelling and its Applications. Springer Proceedings in Complexity, p. 461-467, Springer, ISBN: 978-3-030-22054-9, ISSN: 2213-8684, can, 2018, doi: 10.1007/978-3-030-22055-6_73
2. **Tuccella, Paolo**, Curci, Gabriele, Crumeyrolle, Suzanne, Visconti, Guido (2014). *Modeling of Aerosol Indirect Effects with WRF/Chem over Europe*. In: (a cura di): Steyn D; Mathur R, Air Pollution Modelling and its Applications XXIII. p. 91-95, ISBN: 978-3-319-04378-4, doi: 10.1007/978-3-319-04379-1_15
3. Curci, Gabriele, Ferrero, L., **Tuccella, Paolo**, Angelini, F., Barnaba, F., Bolzacchini, E., Facchini, M. C., Gobbi, G. P., Landi, T. C., Perrone, M. G., Sangiorgi, S., Stocchi, P. (2014). *On the Interplay Between Upper and Ground Levels Dynamics and Chemistry in Determining the Surface Aerosol Budget*. In: (a cura di): Steyn Bultjes Timmermans, Air Pollution Modelling and its Applications XXII. p. 85-89, ISBN: 978-3-319-04378-4, doi: 10.1007/978-3-319-04379-1_14
4. **Tuccella, Paolo**, Grell, Georg A., Mckeen, Stuart A., Ahmadov, Ravan, Curci, Gabriele, Visconti, Guido (2014). *Toward a New Chemical Mechanism in WRF/Chem for Direct and Indirect Aerosol Effects: A Focus on the Carbonaceous Aerosols*. In: NATO Science for Peace and Security Series C: Environmental Security. vol. 137, p. 147-151, ISBN: 9789400755765, doi: 10.1007/978-94-007-5577-2_25
5. **Tuccella P.**, Curci G., Visconti G. (2012). *Aerosol simulation with fully coupled "online" meteorology-chemistry model WRF/Chem over Europe: preliminary results*. In: In Proceedings of 31st Technical Meeting on Air Pollution Modelling and its Application. doi: 10.1007/978-94-007-1359-8_67.

Attendance to conferences as lecturer or organizer

1. **9-11 February 2021**: attendance to the virtual of the 3rd National Conference of AISAM (Italian Association on Atmospheric Sciences and Meteorology), with poster entitled "*Present-day radiative effect from radiation-absorbing aerosols in snow*".
2. **July 2020 – February 2021**: member of the local organizing committee of the 3rd National Conference of AISAM (Italian Association on Atmospheric Sciences and Meteorology), to be virtually held in L'Aquila from 9th to 11th February 2021.
3. **1st-2nd September 2020**: attendance to the first virtual "European GEOS-Chem User's Meeting" (GCE1), with oral presentation entitled "*Climatic effects by radiation-absorbing aerosols in atmosphere and snow*".
4. **7-12 April 2019**: attendance to "EGU General Assembly" with poster entitled "*Global modelling of radiation absorbing aerosols: budget assessment and sensitivity of direct radiative effect to mixing state assumptions*", Wien, Austria.
5. **9th-13th October 2017**: attendance to "16th AeroCom and 5th AeroSat workshops" with poster entitled "*Global scale model simulations of anthropogenic dust: budget assessment and radiative forcing*". Helsinki, Finland.
6. **14th-16th September 2016**: attendance as a lecturer to the WRF-CHIMERE model training course, with lecture entitled "*The challenge of meteorology-chemistry coupling: an online version of the WRF-CHIMERE model for the simulation of the direct and indirect aerosol effects*". Paris, France.

7. **23rd-27th June 2014:** attendance to "15th Annual WRF user's workshop" with oral presentation entitled "*Simulation of aerosol-cloud-radiation interaction over Europe with a new chemistry option in WRF/Chem*". Boulder, Colorado, USA.
8. **23rd-27th July 2014:** attendance to "15th Annual WRF user's workshop" with poster entitled "*The impact of emissions from oil/gas extraction in the Arctic: A regional case study using WRF/Chem and aircraft campaign measurements from the EU ACCESS project*". Boulder, Colorado, USA.
9. **6th-8th June 2012:** attendance to "V Convegno Nazionale, su Il Controllo degli Agenti Fisici: Ambiente, Salute, e Qualità dell'Aria" with oral presentation entitled "*Verso un modello accoppiato meteorologia-chimica per la previsione della qualità dell'aria*". Novara, Italia. The "Righino" award has been assigned to the work, as best article among young researchers.
10. **7-11 May 2012:** attendance to "32st Technical Meeting on Air Pollution Modelling and its Application" with oral presentation entitled "*Toward a new chemical mechanism in WRF/Chem for direct and indirect aerosol effects: A focus on the carbonaceous aerosols*". Utrecht, Netherlands.
11. **3-8 April 2011:** attendance to "EGU General Assembly" with poster entitled "*Simulations of aerosol-cloud-radiation feedback with coupled online WRF/Chem model over Europe*". Vienna, Austria.
12. **Dal 27 September al 1° October 2010:** attendance to "31st NATO/SPS International Technical Meeting on Air Pollution Modelling and its Application" with oral presentation entitled "*Aerosol simulation with fully coupled "online" meteorology-chemistry model WRF/Chem over Europe*". Tourin, Italy.
13. **2-4 November 2009:** attendance to "Atmospheric Composition Change: Climate- Chemistry Interaction" with oral presentation entitled "*Interaction processes in the aerosols-clouds system: first implementation of coupled meteorology-chemistry model WRF/Chem over Europe*". Lecce, Italy.

Other abstracts accepted for presentation in international and national conferences

1. **4th-8 th May 2020:** Pettinelli, E., Pecci, M., Marzano, F. S., Biscarini, M., Boccabella, P., Bruschi, F., Caira, T., Cappelletti, D., Cimini, D., D'Aquila, P., Di Fiore T., Esposito, G., Lauro, S. E., Mattei, E., Monaco, A., Palermo, G., Pecci, M., Raparelli, E., Scozzafava, M., Tuccella, P., "Monitoring the last Apennine glacier: recent in situ campaigns and modelling of Calderone glacial apparatus", EGU General Assembly, virtual meeting.
2. **4th -8th May 2020:** Raperelli, E., **Tuccella, P.**, Marzano, F. S., Ferretti, R., "*Snowpack modelling in Central Italy: analysis and comparison of high-resolution WRF-driven Noah LSM and Alpine3D simulations*", EGU General Assembly, virtual meeting.
3. **2nd-5th October 2019:** Di Antonio, L., Marzano, F., Montopoli, M., Corradini, S., Merucci, L., Stelitano, D., and **Tuccella, P.**, "*Volcanic eruption modelling using chimere model*", in Convective and Volcanic Clouds Detection, Monitoring and Modelling, Catania, Italy.
4. **24th-26th September 2019:** Raperelli, E., **Tuccella, P.**, Marzano, F. S., Ferretti, R., "*Investigation of snow metamorphism in presence of atmospheric impurities through numerical models, remote sensing observations and in situ measurements*", 2nd AISAM congress, Naples, Italy.
5. **2nd-6th September 2019:** Raperelli, E., **Tuccella, P.**, Marzano, F. S., Ferretti, R., "*Investigation of atmospheric impurity impacts on snow metamorphism through in situ measurements, remote sensing observations and numerical models*", in 35th International Conference on Alpine Meteorology, Riva del Garda, Italy.
6. **8th-12nd December 2014:** Roiger, A., Thomas, J. L., Schlager, H., Law, K. S., Raut, J.-C., Marelle, L., **Tuccella, P.**, Kim, J., Reiter, A., Schäfler, A., Weinzierl, B., "*Quantifying emerging local anthropogenic emissions in the Arctic region: the ACCESS aircraft campaign experiment*", in Arctic Change 2014, Ottawa, Canada.
7. **8th-12nd December 2014:** Law, K., Ancellet, G., Raut, J.-C., Thomas, J. L., Pelon, J., Marelle, L., Quennehen, B., **Tuccella, P.**, Long, Y., Paris, J.-D., Pison, I., Jacobi, H.-W., Turquety, S., Jourdan, O., Roiger, A., Schlager, H., Weinzierl, B., "*Remote and local sources of Arctic air pollution*", in Arctic Change 2014, Ottawa, Canada.
8. **26th-30th August 2013:** **Tuccella, P.**, G. A. Grell, S. A. McKeen, R. Ahmadov, Curci, G., G. Visconti, "*Simulation aerosol-clouds interaction over Europe with the meteorology-chemistry-radiation eulerian model WRF/Chem*", in 31st NATO/SPS International Technical Meeting on Air Pollution Modelling and its Application, Miami, Florida. (lavoro presentato oralmente da Gabriele Curci).
9. **26th-30th August 2013:** Curci, G., L. Ferrero, **P. Tuccella**, F. Angelini, F. Barnaba, E. Bolzacchini, M. C. Facchini, G. P. Gobbi, T. C. Landi, M. G. Perrone, S. Sangiorgi, P. Stocchi (2013), "*On the interplay between upper and ground levels dynamics and chemistry in determining the surface aerosol budget*", in

31st NATO/SPS International Technical Meeting on Air Pollution Modelling and its Application, Miami, Florida.

10. **6th-8th June 2012:** Curci, G., **P. Tuccella**, A. Tiberi, “*Influenza su simulazioni meteo-chimiche dell’inventario di utilizzo del suolo: risultati preliminari dell’implementazione di CORINE in WRF/Chem*” (*Influence of land use inventory on meteo-chemistry simulations: preliminary results after the implementation of CORINE land cover in WRF/Chem*), 5th national congress on “Physical agents control: environment, health, air quality”, Novara, Italy.
11. **3rd-8th April 2011:** Curci, G., **P. Tuccella**, G. Cinque, G. Visconti, “*Impact of a renewable biomass energy power plant in urban landscape with complex terrain in Central Italy: modelling assessment and suggestions for monitoring site*”, EGU General Assembly, Wien, Austria.

Dissemination activity

1. **22/04/2021:** lecture on “*The role of academic research in meteorology*”, tenth anniversary of the meteorological amateur association “Meteo Aquilano”.
2. **04/02/2020:** lecture on “*Cambiamenti climatici: dalla scala globale a quella regionale*” (Climate change: from global to regional scale), at L’Aquila Catering Institute.
3. **05/02/2020:** press report in historical evolution of the Calderone Glacier, at LAQTV.
4. **05/12/2019:** lecture on “*Cambiamenti climatici: dalla scala globale a quella regionale*” (Climate change: from global to regional scale), at Intitue for Surveying of L’Aquila.
5. **15/03/2019:** lecture on “*Cause e conseguenze del cambiamento climatico*” (Causes and consequences of climate change), in the framework of “*Fridays for future*”, Avezzano (Italy).
6. **07/11/2018:** press report about environmental conditions of the Calderone Glacier for the regional newscast RAI (Italian Radio and Television).
7. **06/08/2018:** press report about the Calderone Glacier for international radio broadcast presented by Mustafa Marghadi, for the Nederlandse Omroep Stichting.
8. **01/08/2018:** press report about weather evolution for the RAI Regional newscast.
9. **28/09/2018:** lecture on “*L’effetto climatico degli aerosol: impatto sulla riflettività delle nevi*” (Aerosols climate effect: impact on snow reflectivity), Street Science, L’Aquila (Italy).
10. **13/08/2018:** lecture on “*Impatto dei cambiamenti climatici nelle aree montane*” (Impact of climate change on mountain areas), Castel del Monte (Italy).
11. **05/08/2018:** Presentazione del seminario “*Impatto dei cambiamenti climatici nelle aree montane*” (Impact of climate change on mountain areas), for the event “*Cambiamenti climatici e turismo montano: prospettive per il futuro*” (Climate change and mountain tourism: future perspectives), Rocca di Mezzo (Italy).
12. **14/04/2018:** lecture on “*Mountain Meteorology*” for the Italian Alpine Club (CAI) training course for young mountain leaders, Villetta Barrea (Italy).
13. **10/12/2017:** lecture on “*Fenomenologia dei cambiamenti climatici nelle aree montane*” (Climate change phenomenology in mountain areas) for the World Mountain Day, Rocca di Mezzo (Italy).
14. **06/12/2017:** lecture on “*Le interazioni dell’aerosol atmosferico con il clima terrestre*” (Aerosols interactions with Earth climate), at Liceo Scientifico Statale “M. Vitruvio”, Avezzano (Italy).
15. **29/09/2017:** lecture on “*Gli aerosol atmosferici e il clima*” (Atmospheric aerosols and climate), Street Science, L’Aquila (Italy).
16. **17/08/2017:** press report about environmental conditions of the Calderone Glacier for the regional newscast RAI (Italian Radio and Television).
17. **27/12/2014:** lecture on “*Prevedere il tempo: dalla previsione meteorologica alla previsione stagionale*” (Weather forecast: from the meteorological to the seasonal forecast), Castel del Monte, (Italy).
18. **10/08/2012:** Organization of the event “*Aspetti dei cambiamenti climatici: metodi per studiarli e prevederli*” (Climate Change perspectives: analysis and forecast), Santo Stefano di Sessanio (Italy).