

CURRICULUM VITAE

Daniela Cava

Personal Details

Date/Place of Birth: Brindisi, 27/02/1970

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Job Position: Researcher
CNR – National Research Council
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Main Research Interests

Investigation of micrometeorological processes in the atmospheric boundary layer, finalised to:

- study of the turbulence characteristics in the stable boundary layer and interaction with sub-meso motions in weak-wind and very stable conditions ;
- parameterisation of turbulence structure in homogeneous and complex conditions (orographic complexity, vegetal surfaces);
- study of intermittency at the different scales of atmospheric turbulence;
- modelling of turbulent exchange of momentum, energy and mass across the land-atmosphere interface.

The results relative to the described research activity can be applied to:

- Pollutant transport modelling in the Planetary Boundary Layer;
- Air quality modelling and environmental risk assessment;

- Assessment of CO₂ and water vapour balance at the surface-atmosphere interface and of its impact on the Climate System.

Academic Career

Physics Degree: University of Lecce, with marks summa cum laude (27th February 1996);

PhD in “Geophysics for Ambient and Territory”: University of Messina, (28 Gennaio 2000).

Research and Professional Experience

- Since April 2000 she is researcher for the CNR- ISAC (Section of Lecce).
- 1998-2000 – Teaching Assistant: Algebra course – Corso di Diploma Universitario in “Ingegneria Logistica e della Produzione”- Faculty of Engineering – University of Lecce (Italy).
- 1997-2000 - PhD activity research: Study of Atmospheric Turbulence Structure in non-homogeneous conditions.
- 1996-1997 - consulting activity for CNR-ISIAtA Institute (Lecce, Italy) concerning analysis of atmospheric micrometeorological data.

Publications on JCR journals

1. Stefanello M, **Cava D**, Giostra U, Acevedo O, Degrazia G, Anfossi G, Mortarini L. Influence of submeso motions on scalar oscillations and surface energy balance. Quarterly Journal of Royal Meteorological Society. **2020**. <https://doi.org/10.1002/qj.3714>
2. Mortarini L, **Cava D**, Giostra U, Costa FD, Degrazia G, Anfossi D. Horizontal meandering as a distinctive feature of the Stable Boundary Layer. Journal of the Atmospheric Sciences 76 (10): 3029-3046. **2019**. <https://doi.org/10.1175/JAS-D-18-0280.1>
3. **Cava D**, Mortarini L, Giostra U, Acevedo O, Katul G. Submeso motions and intermittent turbulence across a nocturnal low-level jet: a self-organized criticality analogy. Boundary-Layer Meteorology 172 (1), 17-43. **2019**. <https://doi.org/10.1007/s10546-019-00441-8>
4. **Cava D**, Mortarini L, Anfossi D, Giostra U. Interaction of submeso motions in the Antarctic stable boundary layer. Boundary-layer meteorology 171 (2), 151-173. **2019**. <https://doi.org/10.1007/s10546-019-00426-7>
5. Otávio C. Acevedo, Gervásio A. Degrazia, Franciano S. Puhales, Luis G. N. Martins, Pablo E. S. Acevedo OC, Degrazia GA, Puhales FS, Martins LGN, Oliveira PES, Teichrieb C, Silva SM, Maroneze R, Bodmann B, Mortarini L, **Cava D**, Anfossi D. Monitoring the micrometeorology of a coastal site next to a thermal power plant from the surface to 140 m. Bull Am Meteorol Soc 99(4):725–738. **2018**. <https://doi.org/10.1175/BAMS-D-17-0134.1>

6. Mortarini L, **Cava D**, Giostra U, Acevedo O, Nogueira Martins LG, Soares de Oliveira PE, Anfossi D. Observations of submeso motions and intermittent turbulent mixing across a low level jet with a 132-m tower. *Q.J.R. Meteorol. Soc.*, 144: 172–183. **2018**. DOI: 10.1002/qj.3192
7. **Cava D**, Mortarini L, Giostra U, Richiardone R, Anfossi D. A wavelet analysis of low wind speed submeso motions in a nocturnal, boundary layer. *Quarterly Journal of Royal Meteorological Society*, 143: 661-669, **2017**. <https://doi.org/10.1002/qj.2954>
8. Donateo A, **Cava D**, Contini D. A Case Study of the Performance of Different Detrending Methods in Turbulent-Flux Estimation. *Boundary-Layer Meteorol*, 163: 19-37, **2017**. <https://doi.org/10.1007/s10546-017-0243-4>
9. Katul G, Banerjee T, **Cava D**, Germano M, Porporato A. Generalized logarithmic scaling for high-order moments of the longitudinal velocity component explained by the random sweeping decorrelation hypothesis, *Physics of Fluids*, 28: 095104, **2016**. <https://doi.org/10.1063/1.4961963>
10. **Cava D**, Giostra U, Katul G. Characteristics of Gravity Waves over an Antarctic Ice Sheet during an Austral Summer. *Atmosphere*, 6: 1271-1289, **2015**. DOI:10.3390/atmos6091271
11. **Cava D**, Donateo A, Contini D. Combined stationarity index for the estimation of turbulent fluxes of scalars and particles in the atmospheric surface layer. *Agricultural and Forest Meteorology*, 194: 88-103, **2014**. <https://doi.org/10.1016/j.agrformet.2014.03.021>
12. **Cava D**, Katul GG. On the scaling laws of the velocity-scalar cospectra in the canopy sublayer above tall forests. *Boundary-Layer Meteorol*, 145: 351-367, **2012**. <https://doi.org/10.1007/s10546-012-9737-2>
13. **Cava D**, Katul GG, Molini A, Elefante C. The role of surface characteristics on zero-crossing properties of atmospheric turbulence. *JGR-Atmospheres*, 117: D01104, 17 PP. **2012**. DOI:10.1029/2011JD016167
14. Giostra U, Furlani F, Arduini J, **Cava D**, Manning AJ, O'Doherty SJ, Maione M. The determination of a “regional” atmospheric background mixing ratio for anthropogenic greenhouse gases: a comparison of two independent methods. *Atmospheric Environment*, 45: 7396-7405, 2011VOL. 117, D01104, 17 PP., **2012**. <https://doi.org/10.1016/j.atmosenv.2011.06.076>
15. Contini D, **Cava D**, Martano P, Donateo A, Grasso FM. Comparison of in direct methods for the estimation of Boundary Layer Height over flat-terrain in a coastal site, *Meteorol. Z.*, 18: 309-320, **2009**. DOI: 10.1127/0941-2948/2009/0381
16. Katul G, **Cava D**, Launiainen S, Vesala T. An analytical model for the two-scalar covariance budget inside a uniform dense canopy. *Boundary Layer Meteorology*, 131: 173-192, **2009**. <https://doi.org/10.1007/s10546-009-9361-y>
17. **Cava D**, Katul G. The effects of thermal stratification on clustering properties of canopy turbulence. *Boundary Layer Meteorology*, 130 , 307-325, **2009**. <https://doi.org/10.1007/s10546-008-9342-6>
18. **Cava D**, Katul G, Sempreviva AM, Giostra U, Scrimieri A. On the anomalous behaviour of scalars flux-variance similarity functions within the canopy sub-layer of a dense alpine forest. *Boundary Layer Meteorology*, 128 (1): 33-57, **2008**. <https://doi.org/10.1007/s10546-008-9276-z>
19. **Cava D**, Katul GG. Spectral short-circuiting and wake production within the canopy trunk space of an alpine hardwood forest. *Boundary Layer Meteorology*, 126 (3): 415-431, **2008**. <https://doi.org/10.1007/s10546-007-9246-x>

20. Katul GG, Sempreviva A. M, **Cava D.** The temperature-humidity covariance in the marine surface layer: A one-dimensional analytical model. *Boundary Layer Meteorology*, 126 (2): 263-278, **2008**. <https://doi.org/10.1007/s10546-007-9236-z>
21. **Cava D**, Contini D, Donateo A, Martano P. Analysis of Short-Term Closure of the Surface Energy balance above Short Vegetation. *Agricultural and Forest Meteorology*, 148 (1) , 82-93, **2008**. <https://doi.org/10.1016/j.agrformet.2007.09.003>
22. **Cava D**, Contini D, Donateo A, Grasso F, Martano P. A case study of short-term closure of the surface energy balance. *Il Nuovo Cimento*, 121 B, N.8: 845-855, **2006**. DOI:10.1393/ncb/i2007-10017-4
23. Katul G, Porporato A, **Cava D**, Siqueira M. An Analysis of Intermittency, Scaling, and Surface Renewal in Atmospheric Surface Layer Turbulence. *Physica D: Nonlinear Phenomena*, 215 (2), 117-126, **2006**. <https://doi.org/10.1016/j.physd.2006.02.004>
24. Katul G, Poggi D, **Cava D**, Finnigan J. The relative importance of ejections and sweeps to momentum transfer in the atmospheric boundary layer. *Boundary Layer Meteorology*, 120, 367-375, **2006**. <https://doi.org/10.1007/s10546-006-9064-6>
25. **Cava D**, Katul G, Scrimieri A, Poggi D, Cescatti A, Giostra U. Buoyancy and the sensible heat flux budget within dense canopies. *Boundary Layer Meteorology*, 118: 217-240, **2006**. <https://doi.org/10.1007/s10546-005-4736-1>
26. Angelini C, **Cava D**, Katul G, Vidakovic B. Resampling hierarchical processes in the wavelet domain: A case study using atmospheric turbulence. *Physica D: Nonlinear Phenomena*, 207: 24-40, **2005**. <https://doi.org/10.1016/j.physd.2005.05.015>
27. **Cava D**, Schipa S, Giostra U. Investigation of low-frequency perturbations induced by a steep obstacle. *Boundary Layer Meteorology*, 115: 27-45, **2005**. <https://doi.org/10.1007/s10546-004-2123-y>
28. Martano P, **Cava D**, Mastrantonio G, Argentini S, Viola A. Sodar detected top-down convection in a nocturnal cloud-topped boundary layer: a case study. *Boundary Layer Meteorology*, 115: 85-103, **2005**. <https://doi.org/10.1007/s10546-004-3648-9>
29. **Cava D**, Giostra U, Siqueira M, Katul G. Organised Motion and Radiative Perturbations in the Nocturnal Canopy Sublayer above an Even-Aged Pine Forest. *Boundary Layer Meteorology*, 112: 129-157, **2004**. <https://doi.org/10.1023/B:BOUN.0000020160.28184.a0>
30. Giostra U, **Cava D**, Schipa S. Structure functions in a wall-turbulent shear flow. *Boundary Layer Meteorology*, 103: 337-359, **2002**. <https://doi.org/10.1023/A:1014917120110>
31. **Cava D**, Giostra U, Tagliazucca M. Spectral Maxima in a Perturbed Atmospheric Boundary Layer. *Boundary Layer Meteorology*, 100: 421-437, **2001**. <https://doi.org/10.1023/A:1019219117439>
32. Giostra U, Schipa S, **Cava D**. Wavelet Analysis of Intermittent Momentum Flux in the Inertial Subrange. *Il Nuovo Cimento*, 23C, N. 2: 177-189, **2000**.
33. **Cava D**, Giostra U, Tagliazucca M. Spectral Analysis of a Perturbed Stable Boundary Layer. *Il Nuovo Cimento*, 22C, N. 5: 693-704, **1999**.

Book Chapters

1. Katul, G. G., **Cava, D.**, Siqueira, M., Poggi, D. "Scalar Turbulence within the Canopy Sublayer", in *Coherent Flow Structures at Earth's Surface*, First Edition. Edited by Jeremy G.

- Venditti, James L. Best, Michael Church and Richard J. Hardy. Published by John Wiley & Sons, Ltd., pp. 73-95, 2014 (ISBN 978-1-119-96277-9).
- Katul, G. G., **Cava, D.**, Poggi, D., Albertson, J. D., Mahrt, L. "Stationarity, Homogeneity, and Ergodicity in Canopy Turbulence", in *Handbook of Micrometeorology: A Guide for Surface Flux Measurements*, Kluwer Academic Press., pp. 161-180, 2004 (ISBN 14402022646).

Publications on non JCR journals

- Contini, D., **Cava, D.**, Martano, P., Donato, A., Grasso, F.M. Boundary-layer height estimation by sodar and sonic anemometer measurements. *14th International Symposium for the Advancement of Boundary Layer Remote Sensing*, Roskilde, , IOP Publishing, IOP Conf. Series: Earth and Environmental Science **1**, 2008 (doi: 10.1088/1755-1307/1/1/012034) ISSN: 1755-1307.
- Martano, P., **Cava, D.**, Mastrantonio, G., Argentini, S., Viola, A. Nocturnal convection in a cloud-topped boundary layer: a case study. *12th International Symposium On Acoustic Remote Sensing*, Cambridge, UK, 2004.
- Cava, D.**, Schipa, S., Tagliaucca, M., Giostra, U. Some characteristics of atmospheric boundary layer in an antarctic coastal region. *Volume '10th Workshop-Italian Research on Antarctic Atmosphere - Societa' Italiana di Fisica*, Vol. **89**, pp. 185-198, Edited by M. Colacino, G. Giovanelli and L. Stefanutti, 2003. ISBN: 88-7438-021-6. ISSN: 1122-1437.
- Bortoli, D., **Cava, D.**, Georgiadis, T., Giostra, U., Lavagnini, A., Malvestuto, X., Nardino, M., Orsi, G., Sempreviva, A. M., Tagliazucca, M., Transerisci, C., Trivellone, G. A preliminary study of turbulence structure change along a katabatic wind path intersecting an obstacle. *Volume '8th Workshop - Italian Research on Antarctic Atmosphere' - Societa' Italiana di Fisica*, Vol. **69**, pp. 203-218, Edited by M. Colacino, G. Giovanelli and L. Stefanutti, 2000. ISBN: 88-7794-247-9. ISSN: 1122-1437.
- Tagliazucca, M., Trombetti, F., **Cava, D.**, Giostra, U., Schipa, S. Characteristics of a Stable Boundary Layer over a Homogeneous Sloping Surface. *Volume '8th Workshop - Italian Research on Antarctic Atmosphere' - Societa' Italiana di Fisica*, Vol. **69**, pp. 129-135, Edited by M. Colacino, G. Giovanelli and L. Stefanutti, 2000. ISBN: 88-7794-247-9. ISSN: 1122-1437.
- Schipa, S., **Cava, D.**, Giostra, U. Local Isotropy in the Inertial Subrange. *Volume '8th Workshop - Italian Research on Antarctic Atmosphere' - Societa' Italiana di Fisica*, Vol. **69**, pp. 137-150, Edited by M. Colacino, G. Giovanelli and L. Stefanutti, 2000. ISBN: 88-7794-247-9. ISSN: 1122-1437.
- Cava, D.**, Giostra, U., Trombetti, F., Tagliazucca, M. Spectral Characteristics of Waves and Turbulence in a Stable Boundary Layer. *Volume '7th Workshop - Italian Research on Antarctic Atmosphere' - Societa' Italiana di Fisica*, Vol. **62**, pp. 167-179, Edited by M. Colacino, G. Giovanelli and L. Stefanutti, 1998. ISBN: 88-7794-142-1.
- Cava, D.**, Giostra, U., Trombetti, F., Tagliazucca, M. Turbulence characteristics of a stable boundary layer over sloping terrain. *Volume '5th International Conference AIR POLLUTION 97*, Bologna (Italy), 16-18 Settembre 1997, pp. 91-100, Edited by H. Power, T. Tirabassi and C.A. Brebbia, 1997. ISBN: 1-85312-473-7.

9. **Cava, D.**, Giostra, U., Tagliazucca, M. Spectral Analysis of Wind Components in a Stable Atmospheric Boundary Layer. *Volume '2nd European and African Conference on Wind Engineering'*, Genova (Italy), 22-26 June 1997; Vol.1, pp. 245-252, Edited by Giovanni Solari, 1997. ISBN: 88-86281-19-6.
10. Giostra, U., **Cava, D.**, Cardillo, F. Tagliazucca, M. Some characteristics of turbulence from summertime measurements over an Antarctic Ice Sheet. *Volume '6th Workshop - Italian Research on Antarctic Atmosphere' - Societa' Italiana di Fisica*, Vol.51, pp. 25-38, Edited by M. Colacino, G. Giovanelli and L. Stefanutti (Eds), 1996. ISBN: 88-7794-084-0.

International Congresses

1. Stefanello M., Acevedo O., Mortarini L., **Cava D.**, Giostra U., Degrazia G., Anfossi D. Vertical Evolution of Wind Meandering in a nocturnal boundary layer during low-wind speed conditions. *European Geosciences Union General Assembly 2017*, Vienna | Austria | 23 - 28 April 2017.
2. Mortarini L., **Cava D.**, Giostra U., Anfossi D. Interaction of Turbulence nad horizontal meandering in a low-wind stable boundary layer. *European Geosciences Union General Assembly 2017*, Vienna | Austria | 23 - 28 April 2017.
3. Mortarini, L., **Cava, D.**, Giostra, U., Anfossi, D. An integrated approach of auto-correlation functions and wavelet analysis applied to the wind meandering phenomenon. *European Geosciences Union General Assembly 2016*, Vienna | Austria | 17 - 22 April 2016.
4. **Cava, D.**, Giostra, U., Katul, G. Gravity Waves characteristics and their impact on turbulent transport above an Antarctic Ice Sheet. *European Geosciences Union General Assembly 2016*, Vienna | Austria | 17 - 22 April 2016.
5. Donateo, A., **Cava, D.**, Contini, D. Performance of different detrending methods in turbulent flux estimation. *European Geosciences Union General Assembly 2015*, Vienna | Austria | 12 - 17 April 2015.
6. Donateo, A., **Cava, D.**, Contini, D. Comparison of three stationary tests for eddy covariance measurements of turbulent fluxes of different scalars. *European Geosciences Union General Assembly 2013*, Vienna | Austria | 07 - 12 April 2013.
7. Maione, M., Arduini, J., Ugucioni, F., Giostra, U., Furlani, F., Belfiore, L., **Cava, D.** Long term observations of halogenated greenhouse gases in a European continental background station for assessing atmospheric trends, annual growth rates and emission sources. *European Geosciences Union General Assembly 2009*, Vienna | Austria | 19 - 24 April 2009.
8. Contini, D., **Cava, D.**, Martano, P., Donateo, A., Grasso, F.M. Boundary-layer height estimation by sodar and sonic anemometer measurements. *14th International Symposium for the Advancement of Boundary Layer Remote Sensing*, Riso National Laboratory, Roskilde, Denmark, 23-25 June 2008.
9. **Cava, D.**, Contini, D., Donateo, A., Martano, P. Analysis of short-term closure of the surface energy balance in different seasons. *7th EMS Annual Meeting / 8th European Conference on Applications of Meteorology*. San Lorenzo de El Escorial, Spain, 01 - 05 October 2007.
10. **Cava, D.**, Katul, G. Observation and Modeling of Turbulent Spectra within the Canopy Trunk Space of an Alpine Hardwood Forest. *11th Annual George Mason University Conference on "Atmospheric Transport and Dispersion Modeling"*. Washington DC, USA, 10-12 July, 2007.
11. **Cava, D.**, Contini, D., Donateo, A., Martano, P. Analysis of short-term closure of the surface energy balance in different seasons. *AGU Joint Assembly*, Acapulco, Mexico, 22-25 May 2007.

12. **Cava, D.**, Katul, G. Buoyancy and scalar flux budget inside dense canopies – organized motions and closure models. *Sedona International Workshop on Stable Boundary Layers*, Sedona, AZ, USA 13-16 November 2006.
13. **Cava, D.**, Katul, G., Scrimieri, A., Poggi, D., Cescatti, A., Giostra, U. Thermal Stratification, Organized Motion, And The Onset Of Counter-Gradient Flows Within Canopies. *1st iLEAPS Science Conference*, Boulder, Colorado, USA ,21-26 January 2006.
14. Martano, P., **Cava, D.**, Mastrantonio, G., Argentini, S., Viola, A. Nocturnal convection in a cloud-topped boundary layer: a case study. *12th International Symposium On Acoustic Remote Sensing*, Cambridge, UK, 2004.
15. **Cava, D.**, Schipa, S., Tagliazucca, M., Giostra, U. Some characteristics of atmospheric boundary layer in an Antarctic coastal region. *8th Workshop - Italian Research on Antarctic Atmosphere*, Roma (Italy), 2003.
16. **Cava, D.**, Katul, G., Siqueira, M., Giostra, U. Characterisation Of The Nocturnal Canopy Sublayer Above An Even-Aged Pine Forest. *EGS - AGU - EUG Joint Assembly*, Nice, France, 6 -11 April 2003.
17. **Cava, D.**, Schipa, S., Giostra, U. Wavelet Analysis of Large-Scale Intermittency in a Topographically Perturbed Atmospheric Boundary Layer. *2002 Spring Meeting AGU*, Washington, 28-31 May 2002.
18. Giostra, U., Schipa, S., **Cava, D.** Wavelet and Quadrant Analysis of the Structure Functions in a Wall-Turbulent Shear Flow. *EUROPEAN GEOPHYSICAL SOCIETY; XXVII GENERAL ASSEMBLY*; Nice (France); 21-26 April 2002.
19. **Cava, D.**, Schipa, S., Giostra, U. Large-Scale Intermittency in a Topographically Perturbed Atmospheric Boundary Layer. *EUROPEAN GEOPHYSICAL SOCIETY; XXVII GENERAL ASSEMBLY*; Nice (France); 21-26 April 2002.
20. Schipa, S., **Cava, D.**, Giostra, U. Topographically Perturbed Turbulence Structure in and above a Plant Canopy. *EUROPEAN GEOPHYSICAL SOCIETY; XXVI GENERAL ASSEMBLY*; Nice (France); 25-30 March 2001.
21. Schipa, S., Trivellone, G., **Cava, D.**, Giostra, U. Wavelet Analysis of a Topographically Perturbed Air Flow. *EUROPEAN GEOPHYSICAL SOCIETY; XXVI GENERAL ASSEMBLY*; Nice (France); 25-30 March 2001.
22. **Cava, D.**, Giostra, U., Tagliazucca, M. Spectral evidence of turbulence modification in stable boundary layer flow over complex terrain. *EUROPEAN GEOPHYSICAL SOCIETY, XXV GENERAL ASSEMBLY*, Nice (France); 25-29 April 2000.
23. Schipa, S., **Cava, D.**, Giostra, U. Analysis of the momentum flux in the inertial subrange by Wavelet Transform. *8th Workshop - Italian Research on Antarctic Atmosphere*, Bologna (Italy), 1999.
24. **Cava, D.**, Giostra, U., Tagliazucca, M. Orographic forcing on the turbulence structure in a stable boundary layer. *8th Workshop - Italian Research on Antarctic Atmosphere*, Bologna (Italy), 1999.
25. Tagliazucca, M., Giostra, U., **Cava, D.** Spectral analysis of topographic forcing in a stable boundary layer. *EUROPEAN GEOPHYSICAL SOCIETY, XXIII GENERAL ASSEMBLY*, Nice (France); 20-24 April 1998.
26. **Cava, D.**, Giostra, U., Trombetti, F., Tagliazucca, M. Spectra of Wind Components in a Stable Boundary Layer over a Sloping Surface. *7th Workshop - Italian Research on Antarctic Atmosphere*, Bologna (Italy); 22-24 October 1997.

27. Trombetti, F., Giostra, U., **Cava, D.**, Tagliazucca, M. Stable Boundary Layer Structure over a Sloping Surface. *7th Workshop - Italian Research on Antarctic Atmosphere*, Bologna (Italy); 22-24 October 1997.
28. Trombetti, F., Giostra, U., **Cava, D.**, Tagliazucca, M. Turbulence Characteristics of a Stable Boundary Layer over a Sloping Surface. *Fifth International Conference AIR POLLUTION 97*, Bologna (Italy), 16-18 September 1997.
29. **Cava, D.**, Giostra, U., Tagliazucca, M. Spectral Analysis of Wind Components in a Stable Atmospheric Boundary Layer. *2nd European and African Conference on Wind Engineering*, Genova (Italy), 22-26 June 1997.
30. Trombetti, F., Giostra, U., **Cava, D.**, Tagliazucca, M. Characteristics of a Stable Boundary Layer over an Homogeneous Sloping Surface. *MAP MEETING 1997*, Belgirate, Lago Maggiore (Italy); 11-13 June 1997.
31. Giostra, U., **Cava, D.**, Cardillo, F., Tagliazucca, M. Some characteristics of Turbulence from summertime measurements over an Antarctic Ice Sheet. *6th Workshop - Italian Research on Antarctic Atmosphere*, Firenze (Italy), 6-8 November 1995.

National Congresses

1. Donateo, A., **Cava D.**, Contini D, Grasso F.M. Confronto di tre test di stazionarietà di serie temporali nella misura dei flussi turbolenti con la tecnica della eddy correlation. *XCVIII Congresso Nazionale della SOCIETA' ITALIANA di FISICA*, Napoli; 17-21 Settembre 2012.
(1° premio ex aequo miglior presentazione nella sessioneIVa: Geofisica e fisica dell'Ambiente e oceanografia fisica)
2. **Cava, D.**, Katul G., Scrimieri A., Giostra U., Sempreviva A. Scalar dissimilarity within the canopy sublayer. *XCIII Congresso Nazionale della SOCIETA' ITALIANA di FISICA*, Pisa; 24-29 Settembre 2007.
3. **Cava, D.**, Katul, G., Giostra, U., Scrimieri, A. Stratificazione termica, moti organizzati e flussi contro-gradiente al di sopra e all'interno di una copertura vegetale. *Convegno Nazionale di Fisica della Terra Fluida e Problematiche Affini*, Ischia, 11-15 Giugno, 2007.
4. **Cava, D.**, Contini, D., Donateo, A., Grasso, F., Martano, P. Chiusura a breve termine del bilancio energetico superficiale. *XCII Congresso Nazionale della SOCIETA' ITALIANA di FISICA*, Torino; 18-23 Settembre 2006.
(1° premio miglior presentazione nella sessioneIVa: Geofisica e fisica dell'Ambiente)
5. Scrimieri, A., **Cava, D.**, Katul, G., and Giostra, U. Thermal stratification, organized motion, and the sensible heat flux budget equation within dense canopies. *XC Congresso Nazionale della SOCIETA' ITALIANA di FISICA*, Brescia; 20-25 Settembre 2004.
6. Scrimieri, A., **Cava, D.**, Schipa, S. and Giostra, U. Turbulence Structure in a Nocturnal Canopy Sublayer. *LXXXIX Congresso Nazionale della SOCIETA' ITALIANA di FISICA*, Parma; 17-22 September 2003.
7. Martano, P., Mastrantonio, G., Cava, D., Argentini, S., and Viola, A. Shallow convection in a cloud-topped boundary layer. *LXXXIX Congresso Nazionale della SOCIETA' ITALIANA di FISICA*, Parma; 17-22 September 2003.
8. Schipa, S., Giostra, U., and **Cava, D.** Analisi wavelet a quadranti di turbolenza all'interno di vegetazione. *LXXXVII Congresso Nazionale della SOCIETA' ITALIANA di FISICA*, Milano; 24-29 September 2001.

9. **Cava, D.**, Giostra, U., Schipa, S., Tagliazucca, M., and Trivellone, G. Intermittenza a bassa frequenza in un flusso turbolento perturbato da un ostacolo ripido. *LXXXVII Congresso Nazionale della SOCIETA' ITALIANA di FISICA*, Milano; 24-29 September 2001.
10. Giostra, U., **Cava, D.**, and Schipa, S. Analisi wavelet di anisotropia in un flusso turbolento atmosferico. *LXXXIV Congresso Nazionale della SOCIETA' ITALIANA di FISICA*, Palermo; 6-11 October 2000.
11. Schipa, S., Giostra, U., and **Cava, D.** Caratterizzazione della turbolenza all'interno di una canopy densa. *LXXXVI Congresso Nazionale della SOCIETA' ITALIANA di FISICA*, Palermo; 6-11 October 2000.
12. **Cava, D.**, Giostra, U., Trombetti, F., and Tagliazucca, M. Spectral analysis of wind velocity components in a stable boundary layer forced by orographic complexities. *LXXXIV Congresso Nazionale della SOCIETA' ITALIANA di FISICA*, Salerno; 28 September-2 October 1998, pag. 57.
13. Schipa, S., **Cava, D.**, and Giostra, U. Analisi wavelet di flussi turbolenti in canopy. *LXXXIV Congresso Nazionale della SOCIETA' ITALIANA di FISICA*, Salerno; 28 September- 2 October 1998, pag.57.
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- Maggio 2012 – Novembre 2013: “Progetto PROMETEOS: Prodotti, Metodologie e Tecnologie Originali e Sostenibili per la diagnostica e per la conservazione dell’edilizia storica” finanziato nell’ambito del P.O. Puglia FERS 2007-2013 Linea 1.2 – Azione 1.2.4 – Bando “Aiuti a Sostegno dei Parternariati Regionali per l’Innovazione”.
- 2012 – 2014: “Artide ed Antartide: influenza dello strato limite atmosferico sul clima (ABLCLIMAT)” , finanziato dal Ministero dell’Istruzione, dell’Università e della Ricerca Programma Nazionale di Ricerche in Antartide.
- Gennaio 2012 - Dicembre 2014: “INFRASTRUTTURA AMICA Infrastruttura di Alta tecnologia per il Monitoraggio Integrato Climatico-Ambientale” - Progetto PONa3_00363.

- 2006 – 2008 - **Principal Investigator**: Task 5.9: ‘Il ruolo della stratificazione termica nei flussi notturni di CO₂ su superfici vegetali’- Cooperazione Italia-USA su Scienza e Tecnologia dei cambiamenti climatici – Anno 2006 – 2008.
- 2004 – 2007: Progetto MIUR: ‘Sviluppo di un Sistema integrato Modellistica Numerica-Strumentazione e Tecnologie Avanzate per lo Studio e le Previsioni del Trasporto e della Diffusione di Inquinanti in Atmosfera’;
- 2004 – 2006: Programma Nazionale di Ricerche in Antartide: ‘Caratterizzazione chimico-fisica dell’aerosol antartico e processi di rimozione’;
- 2003: Progetto Giovani Ricercatori CNR-ISAC 2003: ‘Effetti delle Strutture Coerenti sul Trasporto Turbolento in Canopy Vegetale’, **Principal Investigator**;
- 2000 - 2003: Progetto MURST-EME2 Centro Sperimentale di Nowcasting nella Regione Puglia;
- 2000 – 2003: Progetto MURST ‘Sviluppo di tecnologie innovative e di processi biotecnologici in condizioni controllate nel settore delle colture vegetali: Diagnosi e Prognosi di situazioni di stress idrico per la vegetazione’, **Principal Investigator**;
- 1999 – 2001: Programma Operativo Plurifondo – Regione Puglia – Misura 7.3.7 – ‘Monitoraggio della qualità dell’aria’ – Fase II;
- 1994 – 1999: Programma Operativo Plurifondo – Regione Puglia – Misura 7.3.7 – ‘Monitoraggio della qualità dell’aria’ – Fase I;
- 1998 – 2001: Progetto Strategico: ‘Artico’;
- 1999 – 2001: MAP (Mesoscale Alpine Programme);
- 1997 – 2001: Progetto ‘Analisi teorica e sperimentale dei processi di scambio di energia e materia tra ecosistemi forestali ed atmosfera’ (convenzione PAT-CNR);
- 1995 – 1999: Programma Nazionale di Ricerche in Antartide.

Attività di referaggio per Riviste Scientifiche Internazionali e Progetti di Ricerca

- Reviewer di articoli per le seguenti riviste JCR:
 - **Geophysical Research Letters**
 - **Nonlinear Processes in Geophysics**
 - **Climatic Change**
 - **Boundary Layer Meteorology**
 - **Biogeosciences**
 - **Agricultural and Forest Meteorology**
 - **Environmental Earth Sciences**
- Reviewer for a project financed by the Netherlands Organization for Scientific Research (NWO, the Dutch Research Council) - VIDI programme of NWO, Research Council for Earth and Life Sciences (ALW) (03/2009).