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Professional situation

Lecturer - *University of Cádiz (UCA)* SEP '23 - Current
Profesor Contratado Doctor. Research line: Coastal Meteorology and Oceanography.
Department of Applied Physics (UCA)

Professional experience

Postdoc - *University of Cádiz (UCA)* May '22 - Sep '23
Juan de la Cierva - Incorporación Fellowship. Coastal Meteorology and Oceanography.
University of Cádiz (Puerto Real, Spain).

Postdoc - *Complutense University of Madrid (UCM)* Apr '21 - Apr '22
AIRTEC-CM project. Wind and turbulence relationships with pollutants.
Complutense University of Madrid (Madrid, Spain).

Postdoc - *Centre National d'Études Spatiales (CNES)* Jan '19 - Jan '21
CNES postdoctoral fellowship. Soil moisture heterogeneity influences in surface fluxes uncertainties.
Laboratoire d'Aérologie (Lannemezan, France).

Postdoc - *Complutense University of Madrid (UCM) and Laboratoire d'Aérologie (LA)* Jan '18 - Jan '19
ATMOUNT project. Mountain breezes influences in CO_2 and energy fluxes.
Laboratoire d'Aérologie (Lannemezan, France).

Postdoc - *CNRS contract funded by European Space Agency (ESA)* Apr '16 - Oct '17
SMOS+RAINFALL project. Rainfall correction through SMOS data assimilation in SURFEX.
Institut des Géosciences de l´Environnement, IGE (Grenoble, France).

PhD - *National pre-doctoral grant (FPI) & research-project contracts (UCM)* Nov '10 - Mar '16
Stable-boundary-layer research (fog, gravity waves, turbulence).
Complutense University of Madrid (Madrid, Spain).

Education

PhD in Physics (5 years, European Mention) Dec '15
Complutense University of Madrid (Spain).
Score: Summa cum laude. UCM Physics Faculty Extraordinary Prize.

Master in Geophysics and Meteorology (2-years program, 120 credits) Jun '10
Complutense University of Madrid (Spain) - 1st year. Uppsala University (Sweden) - 2nd year.
Mean score: 8.17 of 10.

Bachelor in Oceanic Sciences (5-years program, 300 credits) Dec '07
University of Cádiz (Spain).
Academic position: 14 from 107 graduates.

Summary and Skills

- **Research activity**: 36 peer-reviewed articles in scientific journals (28 Q1), 11 as first author (10 Q1). 13 book chapters. Participation in more than 180 presentations in conferences/workshops/seminars. h index=17; i10 index=25, citations=1281 (from Google Scholar). Participation in 25 research projects, principal investigator of 4. 11 scientific stays.

- **Expertise**: Micrometeorology. Mesoscale and land-surface models: WRF and SURFEX, skilled in sensitivity and evaluation experiments. Surface layer and planetary boundary layer. Land-atmosphere interactions. Stable boundary layer processes (fog, gravity waves). Thermally-driven winds (mountain and sea breezes). Surface turbulent fluxes. Soil moisture (SMOS, SMAP, DISPATCH) and satellite-based rainfall products. Satellite-based soil moisture data assimilation in land-surface models for rainfall improvement. Participation in field campaigns and observational data management. Statistical data analysis techniques: eddy covariance, wavelet, multi-resolution flux decomposition. Urban and pollution-related atmospheric studies. Coastal meteorology and oceanography.

- **Teaching activity**: Courses at University Comp. of Madrid, Université de Versailles St-Quentin-en-Yvelines (Paris Saclay), and University of Cádiz (lecturer from September 2023 at UCA). Co-direction of master theses (x11) and degree theses (x2).

- **Languages**: Spanish (*mother tongue*) - English (*advanced*) - French (*advanced*).

- **Computational skills**: Working knowledge of Matlab, Linux, LaTeX. Basic notions of R, Python, Bash, Fortran, Ferret.

List of scientific publications (peer reviewed)

36 – F. Lohou, M. Lothon, S. Bastin, A. Brut, G. Canut, J.-M. Cohard, F. Cheruy, F. Covreaux, S. Dupont, S. Lafont, R. Roehrig, **C. Román-Cascón**, C. Yagüe, E. Bernard, A. Boone, J.-C. Dupont, A. Feofilov, R. Fernandes, M. Grulois, M. Jomé, A. Maison, M. Zouzoua. Model and Observation for surface–atmosphere interactions over heterogeneous landscape: MOSAI project. *Journal of the European Meteorological Society, 2025, 3, 100019. https://doi.org/10.1016/j.jemets.2025.100019*

35 – E. Alonso-Blanco, F. J. Gómez-Moreno, E. Díaz-Ramiro, J. Fernández, E. Coz, C. Yagüe, **C. Román-Cascón**, D. Gómez-Garre, A. Narros, R. Borge, B. Artiñano. Indoor/Outdoor Particulate Matter and Related Pollutants in a Sensitive Public Building in Madrid (Spain). *Environmental Research and Public Health, 2025, 22 (8), 1175. https://www.mdpi.com/1660-4601/22/8/1175*

34 – P. Fernández-Castillo, **C. Román-Cascón**, C. Yagüe. Impact of snow cover on the surface energy balance and its contribution to the extreme cold wave in Spain after snowstorm Filomena. *Atmospheric Research, 2025, 320, 108015. https://doi.org/10.1016/j.atmosres.2025.108015*

33 – J. Carbone, B. Sánchez, **C. Román-Cascón**, A. Martili, D. Royé, C. Yagüe. Effects of the urban development on the near-surface air temperature and surface energy balance: The case study of Madrid from 1970 to 2020. *Urban Climate, 2024, 58, 102198. https://doi.org/10.1016/j.uclim.2024.102198*

32 – V. Cicuéndez, R. Inclán, E.P. Sanchez-Cañete, **C. Román-Cascón**, C. Sáenz, C. Yagüe. Modeling Gross Primary Production (GPP) of a Mediterranean Grassland in Central Spain Using Sentinel-2 NDVI and Meteorological Field Information. *Agronomy, 2024, 14(6), 1243. https://doi.org/10.3390/agronomy14061243*

31 – E. Rivas, J.L. Santiago, F. Martín, A. Martilli, E. Díaz, F.J. Gómez-Moreno, B. Artiñano, **C. Román-Cascón**, C. Yagüe, D. de la Paz, R. Borge. Indoor-outdoor NOX modelling in a single-side naturally ventilated room in a real building in Madrid. *Journal of Building Engineering, 108403. https://doi.org/10.1016/j.jobe.2023.108403*

30 – E. Alonso-Blanco, F.J. Gómez-Moreno, E. Diaz Ramiro, J. Fernández, Esther Coz, C. Yagüe, **C. Román-Cascón**, A. Narros, R. Borge, B. Artiñano. Real-Time Measurements of Indoor–Outdoor Exchange of Gaseous and Particulate Atmospheric Pollutants in an Urban Area. *International Journal of Environmental Research and Public Health, 520(19), 6823, 2023. https://doi.org/10.3390/ijerph20196823*

29 – **C. Román-Cascón**, C. Yagüe, P. Ortiz-Corral, E. Serrano, B. Sánchez, M. Sastre, G. Maqueda, E. Alonso-Blanco, B. Artiñano, F.J. Gómez-Moreno,E. Diaz-Ramiro, J. Fernández, A. Martilli, A.M. García, A. Núñez, J.M. Cordero, A. Narros, R. Borge. Wind and turbulence relationship with NO2 in an urban environment: a fine-scale observational analysis. *Urban Climate, 51 (2023) 101663, 2023. https://doi.org/10.1016/j.uclim.2023.101663*

28 – V. Cicuéndez, J. Litago, V. Sánchez-Girón, **C. Román-Cascón**, L. Recuero, C. Saénz, C. Yagüe, A. Palacios-Orueta. Dynamic relationships between Gross Primary Production and energy partitioning in three different ecosystems based on Eddy Covariance time series analysis. *Frontiers in Forests and Global Change, 6:1017365, 2023. https://doi.org/10.3389/ffgc.2023.1017365*

27 – R. Mulero-Martínez, **C. Román-Cascón**, R. Mañanes, A. Izquierdo, M. Bruno, J. Gómez-Enri. The use of Sentinel-3 altimetry data to assess wind speed from the Weather Research and Forecasting (WRF) model: Application over the Gulf of Cádiz. *Remote Sensing, 14 (16), 4036, 2022; https://doi.org/10.3390/rs14164036.*

26 – T. Pellarin, A. Zoppis, **C. Román-Cascón**, Y. Kerr, N. Rodríguez-Fernández, G. Panthou, N. Philippon, J.-M. Cohard. From SMOS soil moisture to 3-hour precipitation estimates at 0.1° resolution in Africa. *Remote Sensing, 14 (3), 746, 2022; https://doi.org/10.3390/rs14030746.*

25 – A. Martili, B. Sanchez, D. Rasilla, G. Pappaccogli, F. Allende, F. Martin, **C. Román-Cascón**, C. Yagüe, and F. Fernandez. Simulating the pollutant dispersion during persistent Wintertime Thermal Inversions over urban areas. The case of Madrid. *Atmospheric Research, 270, 106058, 2021; https://doi.org/10.1016/j.atmosres.2022.106058*

24 – A. Martili, B. Sanchez, D. Rasilla, G. Pappaccogli, F. Allende, F. Martin, **C. Román-Cascón**, C. Yagüe, and F. Fernandez. Simulating the meteorology during persistent Wintertime Thermal Inversions over urban areas. The case of Madrid. *Atmospheric Research 263, 105789, 2021; https://doi.org/10.1016/j.atmosres.2021.105789*

23 – **C. Román-Cascón**, M. Lothon, F. Lohou, O. Hartogensis, J. Vila Guerau de Arellano, D. Pino, Carlos Yagüe and E. Pardyjak. Surface representation impacts on turbulent heat fluxes in WRF (v.4.1.3). *Geoscientific Model Development 14, 3939–3967, 2021; https://doi.org/10.5194/gmd-14-3939-2021*

22 – **C. Román-Cascón**, M. Lothon, F. Lohou, N. Ojha, O. Merlin, D. Aragonés, M. P. González-Dugo, A. Andreu, T. Pellarin, A. Brut, R. C. Soriguer, R. Díaz-Delgado, O. Hartogensis and Carlos Yagüe. Can we use Satellite-Based Soil-Moisture Products at High Resolution to Investigate Land-Use Differences and Land–Atmosphere Interactions? A case study in the savanna. *Remote Sensing, 2020, 12(11), 1701; https://doi.org/10.3390/rs12111701.*

21 – T. Pellarin, **C. Román-Cascón**, C. Baron, R. Bindlish, L. Brocca, P. Camberlin, D. Fernández-Prieto, Y. Kerr, C. Massari, G. Panthou, B. Perrimond, N. Philippon. The Precipitation Inferred from Soil Moisture (PrISM) near real-time rainfall product: evaluation and comparison. *Remote Sensing, 2020, 12(3), 481; https://doi.org/10.3390/rs12030481.*

20 – J. A. Arrillaga, P. Jiménez, J. Vilà-Guerau de Arellano, Maria A. Jiménez, **C. Román-Cascón**, M. Sastre and C. Yagüe. Analyzing the Synoptic, Meso and Local Scales Involved in Sea-Breeze Formation and Frontal Characteristics. *Journal of Geophysical Research - Atmospheres, 2020. https://doi.org/10.1029/2019JD031302*

19 – **C. Román-Cascón**, C. Yagüe, G. J. Steeneveld, G. Morales, J. A. Arrillaga, M. Sastre and G. Maqueda. Radiation and cloud-base lowering fog events: Observational analysis and evaluation of WRF and HARMONIE. *Atmospheric Research, 229, 190-207, 2019. https://doi.org/10.1016/j.atmosres.2019.06.018.*

18 – J. A. Arrillaga, C. Yagüe, **C. Román-Cascón**, M. Sastre, G. Maqueda, and J. Vilà-Guerau de Arellano. From weak to intense downslope winds: origin, interaction with boundary-layer turbulence and impact on CO_2 variability. *Atmospheric Chemistry and Physics, 19, 4615-4635, 2019. https://doi.org/10.5194/acp-19-4615-2019.*

17 – **C. Román-Cascón**, C. Yagüe, J.A. Arrillaga, M. Lothon, E. R. Pardyjak, F. Lohou, R. M. Inclán, M. Sastre, G. Maqueda, S. Derrien, Y. Meyerfeld, C. Hang, P. Campargue-Rodríguez, I. Turki. Comparing mountain breezes and their impacts on CO_2 mixing ratios at three contrasting areas. *Atmospheric Research, 221: 111-126, 2019. https://doi.org/10.1016/j.atmosres.2019.01.019.*

16 – F. J. Gómez-Moreno, B. B. Artiñano, E. Díaz Ramiro, M. Barreiro, L. Núñez, E. Coz, C. Dimitroulopoulou, S. Vardoulakis, C. Yagüe, G. Maqueda, M. Sastre, **C. Román-Cascón**, J.M. Santamaría, R. Borge. Urban vegetation and particle air pollution: Experimental campaigns in a traffic hotspot. *Environmental Pollution, 247: 195-205, 2019. https://doi.org/10.1016/j.envpol.2019.01.016.*

15 – F. Gibon, T. Pellarin, C. **Román-Cascón**, A. Alhassane, S. Traoré, Y. H. Kerr, D. Lo Seen and C. Baron. Millet yield estimates in the Sahel using satellite derived soil moisture time series. *Agricultural and Forest Meteorology, 262, 100-109* ***2018****. https://doi.org/10.1016/j.agrformet.2018.07.001.*

14 – S. Galle and coauthors (**C. Román-Cascón**). AMMA-CATCH, a critical zone observatory in West Africa monitoring a region in transition. *Vadose Zone Journal,* ***2018****; 17(1):180062. doi:10.2136/vzj2018.03.0062.*

13 – J. A. Arrillaga, J. Vilà Guerau de Arellano, F. Bosveld, H. K. Baltink, C. Yagüe, A. Hensen, M. Sastre and **C. Román-Cascón**. Impacts of afternoon and evening sea-breeze fronts on local turbulence, and CO_2 and radon-222 transport. *Quarterly Journal of the Royal Meteorological Society,* ***2018****;1–22. https://doi.org/10.1002/qj.3252.*

12 – **C. Román-Cascón**, T. Pellarin, F. Gibon, L. Brocca, E. Cosme, W. Crow, D. Fernández-Prieto, Y. H. Kerr and C. Massari. Correcting satellite-based precipitation products through SMOS soil moisture data assimilation in two land-surface models of different complexity: API and SURFEX. *Remote Sensing of Environment, 200: 295-310,* ***2017****. DOI: http://dx.doi.org/10.1016/j.rse.2017.08.022.*

11 – J. A. Arrillaga, C. Yagüe, M. Sastre and **C. Román-Cascón**. A characterisation of sea-breeze events in the eastern Cantabrian coast (Spain) from observational data and WRF simulations. *Atmospheric Research, 181: 265-280,* ***2016****. DOI:10.1016/j.atmosres.2016.06.021.*

10 – R. Borge, A. Narros, B. Artíñano, C. Yagüe, F. J. Gómez-Moreno, D. de la Paz, **C. Román-Cascón**, E. Díaz, G. Maqueda, M. Sastre, C. Quaassdorff, C. Dimitroulopoulou and S. Vardoulakis. Assessment of microscale spatio-temporal variation of air pollution at an urban hotspot in Madrid (Spain) through an extensive field campaign. *Atmospheric Environment, 140: 432-445,* ***2016****. DOI:10.1016/j.atmosenv.2016.06.020.*

9 – **C. Román-Cascón**, C. Yagüe, G. J. Steeneveld, M. Sastre, J.A. Arrillaga and G. Maqueda. Estimating fog-top height through near-surface micrometeorological measurements. *Atmospheric Research, 170: 76-86,* ***2016****. DOI: 10.1016/j.atmosres.2015.11.016.*

8 – C. Hang, D. F. Nadeau, I. Gultepe, S. W. Hoch, **C. Román-Cascón**, K. Pryor, H. J. Fernando, E. D. Creegan, L. S. Leo, Z. Silver and E. Pardyjak. A Case Study of the Mechanisms Modulating the Evolution of Valley Fog. *Pure and Applied Geophysics, 173(9): 3011–3030,* ***2016****. DOI:10.1007/s00024-016-1370-4.*

7 – **C. Román-Cascón**, G. J. Steeneveld, C. Yagüe, M. Sastre, J.A. Arrillaga and G. Maqueda. Forecasting radiation fog at climatologically contrasting sites: evaluation of statistical methods and WRF. *Quarterly Journal of the Royal Meteorological Society, 142: 1048–1063,* ***2016****. DOI: 10.1002/qj.2708.*

6 – **C. Román-Cascón**, C. Yagüe, L. Mahrt, M. Sastre, G. J. Steeneveld, E. Pardyjak, A. van de Boer and O. Hartogensis. Interactions among drainage flows, gravity waves and turbulence: a BLLAST case study. *Atmospheric Chemistry and Physics, 15: 9031-9047,* ***2015****. DOI: 10.5194/acp-15-9031-2015.*

5 – M. Sastre, C. Yagüe, **C. Román-Cascón** and G. Maqueda. Atmospheric boundary-layer evening transitions: a comparison between two different experimental sites. *Boundary Layer Meteorology, 157(3): 375-399,* ***2015****. DOI 10.1007/s10546-015-0065-1.*

4 – **C. Román-Cascón**, C. Yagüe, S. Viana, M. Sastre, G. Maqueda, M. Lothon and I. Gómara. Near monochromatic gravity waves associated with a convective system close to the Pyrenees. *Quarterly Journal of the Royal Meteorological Society, 141: 1320-1332,* ***2015****. DOI: 10.1002/qj.2441.*

3 – M. Lothon and co-authors (**C. Román-Cascón**). The BLLAST field experiment: Boundary-Layer Late Afternoon and Sunset Turbulence. *Atmospheric Chemistry and Physics, 14, 10931-10960,* ***2014****. DOI:10.5194/acp-14-10931-2014.*

2 – M. Sastre, C. Yagüe, **C. Román-Cascón**, G. Maqueda, F. Salamanca and S. Viana. Evening transitions of the atmospheric boundary layer: characterization, case studies and WRF simulations. *Advances in Science and Research, 88: 39-44,* ***2012****. DOI:10.5194/asr-8-39-2012.*

1 – **C. Román-Cascón**, C. Yagüe, M. Sastre, G. Maqueda, F. Salamanca and S. Viana. Observations and WRF simulations of fog events at the Spanish Northern Plateau. *Advances in Science and Research, 8(1): 11-18,* ***2012****. DOI: 10.5194/asr-8-11-2012.*

Research projects (as principal researcher)

5 - Title: BRISA. Improving the understanding and prediction of sea BReezes and their effects on the meteorologIcal conditions of complex Semi-Arid regions. Funded by: Ministerio de Ciencia, Innovación y Universidades. Agencia Estatal de Investigación. Proyectos de Generación de Conocimiento 2024. Duration: September 2025 – September 2028. Amount: 185.000 €. Principal Researcher: Carlos Román Cascón.

4 - Title: WIND4US. Disentangling the complexity of the WIND systems in coastal areas FOR a better Understanding of their impacts on Society. Funded by: Ministerio de Ciencia e Innovación. Convocatoria 2023 - Incentivación de la consolidación investigadora. Duration: April 2024 – April 2026 Amount: 193.827,70 €. Principal Researcher: Carlos Román Cascón.

3 - Title: OceanUCA: Adaptation and consolidation of an operational oceanographical system of the seas and estuaries of the andalusian coastal areas for the oceanographical data monitorization, observation and transfer to society. Funded by: Junta de Andalucía (Marine Sciences Projects special Call). Duration: Jan 2023 – Dec 2024 (possible extension) Amount: 211.623,50 €. Principal Researcher: Carlos Román Cascón and Óscar Álvarez Esteban.

2 - Title: WINDABL. How are the surface thermally driven WINDs influenced by the vertical and horizontal structure of the Atmospheric Boundary Layer?. Funded by: Universidad de Cádiz (Proyectos para Investigadores Nóveles). Duration: Jan 2023 – Jun 2024 Amount: 9956 €. Principal Researcher: Carlos Román Cascón.

1 - Title: Soil moisture heterogeneity influences in surface fluxes uncertainties. Funded by: Centre National d'Études Spatiales (CNES) (agencia espacial francesa). Duration: enero 2019 – diciembre 2020 Amount: financiación contrato postdoctoral propio (2 años). Principal Researcher: Carlos Román Cascón.

Research projects (as member of the project)

21 - Title: DEtección y eStudio de PIScinas mediante técnicas y herramientas de TEledetección en municipios turísticos costeros de la provincia de Cádiz (DESPISTE). Funded by: Junta de Andalucía. Duration: 09/2025 - 09/2027. Amount: 30.0000 €. Principal Researcher: Jesús Gómez-Enri (UCA) and María Luisa Pérez Cayeiro

21 - Title: Integral evaluation of urban air quality and climate change: AIRTEC2-CM. Funded by: Comunidad de Madrid (Ref.: TEC 2024/ECO 283). Duration: 01/2025 - 12/2028. Amount: 1.026.000 €. Coordinator: Rafael Borge

(UPM). (IP METCLIM-UCM research group: Carlos Yagüe).

20 - Title: Spatio-temporal analysis of the West Alboran gyre (Atlantic jet) (Análisis eSpacio-Temporal del frente choRro Atlántico-giro occidental del mar de ALborán. Estudio de procesos de pequeña escala. (ASTRAL)). Funded by: Proyectos de Investigación Jóvenes Doctores CEIMAR. Duration: 2024. Amount: 2000 €. Principal Researcher: Marina Bolado Penagos.

19 - Title: Analysis of the surface circulation in the Gulf of Cádiz through the use of lagangiang drift bouys (Análisis de la circulación superficial del golfo de Cádiz mediante el uso de BOyas LAgrangianas (BOLA)). Funded by: Universidad de Cádiz (Proyectos para Investigadores Nóveles). Duration: Nov 2023 – Nov 2024. Amount: 10000 €. Principal Researcher: Marina Bolado Penagos.

18 - Title: Comprensión de la realidad social de las migraciones climáticas mediante la conexión de la Red interuniversitaria Migraciones Climáticas y Refugiad@s con grupos y entidades sociales (MASCARASocial). Funded by: XIX Convocatoria de ayudas para proyectos de cooperación que contribuyan a la consecución de los objetivos de desarrollo sostenible de la Universidad Complutense de Madrid de 2023. Duration: 2023 – 2024 Amount: 5.549 €. Principal Researcher: Mercedes Sastre García.

17 - Title: Consolidación de la red interuniversitaria Migraciones Climáticas y Refugiad@s y Transferencia a la Sociedad (ENMASCARADO). Funded by: Vicerrectorado de Relaciones Internacionales y Cooperación. Universidad Complutense de Madrid (Ref. VR. 28/22). Duration: 01/04/2022 - 31/12/2022 Amount: 4.722 €. Principal Researcher: Marta Martín del Rey.

16 - Title: Interacciones superficie-atmosfera en un medio cambiante: ¿Como impactan en procesos de capa limite atmosférica a escalas meso, submeso y local en areas montañosas y costeras? (LATMOS-i). Funded by: Ministerio de Ciencia e Innovación (Ref: PID2020-115321RB-I00). Duration: septiembre 2021- agosto 2024 Amount: 139.150 € Principal Researcher: Carlos Yagüe Anguís.

15 - Title: Observatorio Costero Ambiental del Suroeste (OCASO). Funded by: Unión Europea. Duration: 2017 - 2021 Amount: 959.488,74 € Principal Researcher: Miguel Bruno Mejías.

14 - Title: Evaluación integral de la calidad del aire urbano y cambio climático: AIRTEC-CM. Funded by: Comunidad de Madrid/Unión Europea (Ref.: S2018/EMT-4329). Duration: 01/01/2019 - 30/04/2023 Amount: 938.955 € Coordinator: Rafael Borge (UPM). (IP METCLIM-UCM research group: Carlos Yagüe).

13 - Title: Micrometeorología y Variabilidad Climática (Financiación Grupos de Investigación Evaluados Positivamente Agencia Estatal de Investigación). Funded by: UCM. Duration: enero 2019 - diciembre 2020 Amount: 2.200 € Principal Researcher: Carlos Yagüe Anguís y Belén Rodríguez de Fonseca.

12 - Title: Micrometeorología y Variabilidad Climática (Financiación Grupos de Investigación Evaluados Positivamente Agencia Estatal de Investigación). Funded by: UCM. Duration: diciembre 2018 - septiembre 2019 Amount: 2.600 € Principal Researcher: Carlos Yagüe Anguís y Belén Rodríguez de Fonseca.

11 - Title: SMOS+RAINFALL. Funded by: European Space Agency (ESA). ESRIN Contrat No. 4000114738/15/I-SB0 Duration: 15/10/2015 – 26/10/2017. Amount: Principal Researcher: Thierry Pellarin.

10 - Title: Flujos micro-mesometeorológicos en el entorno de la Sierra de Guadarrama: Influencia sobre los flujos de gases de efecto invernadero y energía (ATMOUNT-II). Funded by: Ministerio de Economía y Competitividad (Ref.: CGL2015-65627-C3-3-R). Duration: 01/01/2016 - 31/12/2019 Amount: 168.000 € Principal Researcher: Carlos Yagüe Anguís.

9 - Title: Técnicas innovadoras para la evaluación y mejora de la calidad del aire urbano: TECNAIRE. Funded by: Comunidad de Madrid/Unión Europea (Ref.: S2013/MAE-2972). Duration: 01/10/2014 - 31/12/2018 Amount: 714.725 € Principal Researcher: Rafael Borge García (IP en la UCM Carlos Yagüe).

8 - Title: Micrometeorología y Variabilidad Climática (Financiación Grupos de Investigación Consolidados UCM. Referencia: 910437. Convocatoria GR3/14). Funded by: Banco Santander-UCM. Duration: 21/11/2014 - 20/11/2015 Amount: 3.510,44 € Principal Researcher: Carlos Yagüe Anguís.

7 - Title: Interacción entre procesos de Capa Límite Atmosférica y la niebla en ambientes estables: Estudio observacional y simulaciones numéricas. Funded by: Ministerio de Economía y Competitividad (Ref.: CGL2012-37416-C04-

02). Duration: 01/01/2013 - 31/12/2016 Amount: 121.000 € Principal Researcher: Carlos Yagüe Anguís.

6 - Title: Actualización de recursos del laboratorio de Física de la Atmósfera y del Océano FONGANG en UCAD (Senegal). Funded by: IX Convocatoria de Cooperación al desarrollo de la UCM 2012. Duration: 2013 - 2014 Amount: 20.534 € Principal Researcher: Elsa Mohino.

5 - Title: Guadarrama Monitoring Network Initiative (GuMNet). Funded by: Universidad Complutense de Madrid - Universidad Politécnica. Ayudas para la adquisición de equipamiento científico-tecnológico e infraestructuras en el marco del Campus de Excelencia Internacional: Campus de Moncloa. DURACIÓN: 01/01/2012 - 31/12/2015 Amount: 318.876 € Principal Researcher: J. Fidel González Rouco.

4 - Title: Estudio de los procesos físicos relevantes en la transición de la capa limite Atmosférica Nocturna (PROCLAM Parte III). Funded by: Ministerio de Ciencia e Innovación (Ref.: CGL2009-12797-C03-03). DURACIÓN: 01/01/2010 - 31/12/2012 Amount: 75.000 € Principal Researcher: Carlos Yagüe Anguís.

3 - Title: Micrometeorología y Variabilidad Climática (Financiación Grupos de Investigación Consolidados UCM. Referencia: 910437. Convocatoria GR 35/10-A). Funded by: UCM-Banco Santander. Duration: enero 2011 - febrero 2012 Amount: 5.706,13 € Principal Researcher: Carlos Yagüe Anguís.

2 - Title: Participación en la Campaña internacional BLLAST (Boundary Layer Late Afternoon and Sunset Turbulence). Acción Complementaria. Funded by: Ministerio de Ciencia e Innovación (Ref.: CGL2011-13477-E). Duration: 01/06/2011 - 30/09/2012 Amount: 18.000 € Principal Researcher: Carlos Yagüe Anguís.

1 - Title: Micrometeorología y Variabilidad Climática (Financiación Grupos de Investigación. Referencia: 910437. Convocatoria GR58/08). Funded by: UCM-Banco Santander. DURACIÓN: enero 2009 - diciembre 2010 Amount: 13.460 €. Principal Researcher: Carlos Yagüe Anguís.

Scientific stays

Center: Centre de Recherches Atmospheriques (Laboratoire d´Aerologie). Lannemezan, France.
Position: Researcher, 14 days (13 - 26 August 2023).
Supervisor: Marie Lothon, Fabienne Lohou.
Description: Participation in the MOSAI field campaign in the frame of the LATMOIS-i and WINDABL projects. Launching of nocturnal radiosoundings at the Aure Valley to capture conditions of downvalley flows.

Center: Centre de Recherches Atmospheriques (Laboratoire d´Aerologie). Lannemezan, France.
Position: Researcher, 10 days (11 - 21 April 2023).
Supervisor: Marie Lothon.
Description: Participation in the MOSAI field campaign in the frame of the LATMOIS-i and WINDABL projects.

Center: Meteorology and Air Quality Group. Wageningen University. Wageningen, The Netherlands.
Position: Researcher, 1 month (15 August to 15 September 2022).
Supervisor: Gert-Jan Steeneveld.
Description: Scientific stay for WRF modelling research (coastal breezes).

Center: Centre de Recherches Atmospheriques (Laboratoire d´Aerologie). Lannemezan, France.
Position: Researcher, 3 days (9 August 2022 to 11 August 2022).
Supervisor: Marie Lothon.
Description: Strategical decisions about deployment of instrumentation in 2023 in the frame of the LATMOS-i and MOSAI projects.

Center: Applied Physics Department (University of Cádiz)
Position: Researcher, 1 year (2020).
Supervisor: Miguel Bruno Mejías
Description: Scientific collaboration for WRF modelling research.

Center: Doñana Biological Station (CSIC-EBD). Seville, Spain.
Position: Researcher, 8 weeks (16 September to 8 November 2019).
Supervisor: Ramón Casimiro Soriguer Escofet and Ricardo Díaz Delgado.
Description: Scientific collaboration for the analysis of *in situ* data in the area of Doñana National Park and preparation of high-resolution land-use maps.

Center: Centre de Recherches Atmospheriques (Laboratoire d´Aerologie). Lannemezan, France.
Position: Researcher, 1 year (1 January 2018 to 1 January 2019).
Supervisor: Marie Lothon.
Description: Scientific collaboration in the frame of the ATMOUNT-II project.

Center: Department of Mechanical Engineering. University of Utah. Salt Lake City (Utah), USA.
Position: PhD stay. Researcher, 3 weeks (9 January 2015 to 26 January 2015).
Supervisor: Eric Pardyjak.
Description: Participation in the MATERHORN-X-Fog field Campaign. Salt Lake City and Heber Valley. Launching of radiosoundings and tethered balloons during fog events, IOP meetings and operational planning.

Center: Meteorology and Air Quality Group. Wageningen University. Wageningen, The Netherlands.
Position: PhD stay. Researcher, 5 months (1 February 2014 to 1 July 2014).
Supervisor: Gert-Jan Steeneveld.
Description: Scientific stay for fog research.

Center: Centre de Recherches Atmospheriques (Laboratoire d´Aerologie). Lannemezan, France.
Position: Researcher, 1 month (6 to 8 June and 14 June to 8 July).
Supervisor: Marie Lothon
Description: Participation in the international campaign BLLAST "Boundary Layer Late Afternoon and Sunset Turbulence". Installation of 3 microbarometers and 1 sonic anemometer, quality control of data, implementation of graphics in the website. Launch of radiosoundings and tethered balloons in collaboration with French and American researchers.

Center: Department of Earth Sciences, Uppsala University. Uppsala, Sweden.
Position: Student, 10 months (25 August 2009 – 15 June 2010).
Supervisor: Anna Rutgersson (master thesis supervisor).
Description: ERASMUS grant (2nd year of Master's degree in Geophysics and Meteorology).

Teaching activity

Subject: Lecturer at the University of Cádiz (full time) from September 2023 — From Sept 2023
Programme: Please contact for more information.
Institution: Universidad de Cádiz
Duration/type: Theoretical and practical courses, degree, master and PhD courses.

Subject: Introduction to the Weather Research and Forecasting (WRF) model. — 2022/2023
Programme: Doctoral course (12 hours).
Institution: Universidad de Cádiz
Duration/type: Theoretical and practical course.

Subject: Fluids mechanics — 2022/2023
Programme: Marine Sciences degree
Institution: Universidad de Cádiz
Duration/type: Practical courses.

Subject: Fundamentals and examples of marine data analysis. — 2022
Programme: Marine Data Literacy Course.
Institution: European University of the Seas (SEA-EU).
Duration/type: 1.5 h course.

Subject: Surface energy balance (theory+installation instrumentation). — 2019
Programme: Master 2 Physique, environnement, procédés (PEPs)
Institution: Université de Versailles St-Quentin-en-Yvelines (Paris Saclay)
Duration/type: 9h / Teaching (practical work).

Subject: Physics Laboratory. — 2014 - 2015
Programme: Bachelor degree in Geology.
Institution: Universidad Complutense de Madrid.
Duration/type: 24h / Teaching.

Subject: Atmospheric Physics. — 2014 - 2015
Programme: Bachelor degree in Physics.
Institution: Universidad Complutense de Madrid.
Duration/type: 6h / Teaching.

PhD, master, and degree theses supervised

Ongoing studies

PhD – 2024-2028 PhD Thesis. Esther Luján-Amoraga. Characterisation of breezes in the southwest of Spain: study of the atmospheric and marine interactions and effects from observations and numerical simulations. University of Cádiz. Co-supervised with Marina Bolado Penagos.

PhD – 2022-2026 PhD Thesis. Pablo Ortiz. Observational analysis and numerical simulations of sea and mountain breezes and their interaction with different scale processes at heterogeneous areas. Complutense University of Madrid. Co-supervised with Prof. Carlos Yagüe.

Degree Thesis – Mario Vicente Arroyo. Influencia de factores oceanográficos y meteorológicos en las floraciones de Alexandrium catenella en la Patagonia noroccidental. University of Cádiz. Co-supervised with Prof. Jose Garcés-Vargas.

Degree Thesis – Manu Díaz Bertrana. Estudio de la heterogeneidad horizontal de las brisas marinas en la costa del golfo de Cádiz. University of Cádiz. Co-supervised with Marina Bolado Penagos.

Finished studies

15 – 2023/2024 Master Thesis. Esther Luján. Coastal breezes impacts on surface coastal currents. University of Cádiz. Co-supervised with Dr. Marina Bolado-Penagos

14 – 2022/2023 Degree Thesis. Esther Luján. How do the sea breezes impact the horizontal extension of heat waves in Andalusia? Degree in Marine Sciences. University of Cádiz. Co-supervised with Prof. Alfredo Izquierdo

13 – 2022/2023 Master Thesis. Tina Brnas. Sea breezes characteristics in the Gulf of Cádiz. University of Split and University of Cádiz

12 – 2022/2023 Master Thesis. Pablo Fernández. Coastal breeze analyses in Málaga from model and observational data. Master in Meteorology and Geophysics. Complutense University of Madrid. Co-supervised with Prof. Carlos Yagüe.

11 – 2022 Master Thesis. Juan Carbone. How has the urban development in Madrid impacted its atmospheric conditions? Analysis of the last 50 years. Master in Meteorology and Geophysics. Complutense University of Madrid. Co-supervised with Prof. Carlos Yagüe.

10 – 2022 Degree Thesis. Pablo Fernández. Storm Filomena. Analysis of an extraordinary snowfall event in Spain. Physics Degree. Complutense University of Madrid. Co-supervised with Prof. Carlos Yagüe.

9 – 2022 Degree Thesis. Alberto Collado. Meteorology and pollutants relationships in Madrid. Computer Sciences Degree. Complutense University of Madrid. Co-supervised with Prof. Carlos Yagüe.

8 – 2022 Master Thesis. Pablo Ortiz. How do the low-level stability and turbulence affect pollutants levels in Madrid? Master in Meteorology and Geophysics. Complutense University of Madrid. Co-supervised with Prof. Carlos Yagüe.

7 – 2022 Master Thesis. José Antonio Pocino. Surface Energy Balance (SEB) closure analysis under different environmental conditions. Master in Meteorology and Geophysics. Complutense University of Madrid. Co-supervised with Prof. Carlos Yagüe.

6 – 2020 Master Thesis. Jorge Valverde. How does the soil moisture impact the surface energy fluxes? An observational study at "La Herrería" Forest. Master in Meteorology and Geophysics. Complutense University of Madrid. Co-supervised with Prof. Carlos Yagüe.

5 – 2018 Master Thesis. Pablo Campargue. Greenhouse gases (H2O and CO2) concentrations and fluxes response to mountain breezes. Master 1 Sciences des Océans, de l´Atmosphère et du Climat. Université Toulouse Paul Sabatier. Co-supervised with Dr. Marie Lothon.

4 – 2018 Master Thesis. Imen Turki. Greenhouse gases (H2O and CO2) concentrations and fluxes response to mountain breezes. Master 1 Sciences des Océans, de l´Atmosphère et du Climat. Université Toulouse Paul Sabatier. Co-supervised with Dr. Marie Lothon.

3 – 2018 Master Thesis. Andrea Rodicio. Study of the annual cycle of greenhouse gases in the area of "La Herrería" Forest (Guadarrama Mountains). Master in Meteorology and Geophysics. Universidad Complutense de Madrid. Co-supervised with Prof. Carlos Yagüe.

2 – 2017 Master Thesis. Alba García Pérez-Cruz. Radiation fog and their interaction with micrometeorology. Master in Meteorology and Geophysics. Complutense University of Madrid. Co-supervised with Prof. Gregorio Maqueda.

1 – 2016 Master Thesis. Irene Bartolomé. Radiation fog and their interaction with micrometeorology. Master in Meteorology and Geophysics. Complutense University of Madrid. Co-supervised with Prof. Gregorio Maqueda.

Book chapters and conference proceedings

14 – Elena Calvo Miguélez, Luis Durán Montejano, Sofía Fernández Álvarez, Iñigo Gómara Cardalliaguet, Álvaro González Cervera, Jorge López Parages, Teresa Losada Doval, Marta Martín del Rey, Elsa Mohino Harris, Elsa, Lucía Montoya Carramolino, Irene Polo Sánchez, Belén Rodríguez Fonseca, **Carlos Román-Cascón**, Javier Soto Navarro, Julián Villamayor Moreno El Sahel: escenario de la crisis climática y migratoria. Una mirada interdisciplinar. Capítulo II: Variabilidad climática y cambio climático en el Sahel y en África Occidental *1ª Edición: diciembre de 2024. ISBN: 978-84-123246-7-9. Colección Academia Casa África*

13 – Jon Ander Arrillaga, C. Yagüe, **C. Román-Cascón**, M. Sastre, J. Vilà-Guerau de Arellano and G. Maqueda. Los vientos catabáticos y su impacto en el régimen estable nocturno durante el verano de 2017 en el bosque de la Herrería (Madrid). *XXXV Jornadas Científicas de la Asociación Meteorológica Española. ISBN 2605-2202. 2018. Extended abstract.*

12 – Carlos Yagüe, M. Sastre, G. Maqueda, R. Borge, B. Artiñano, F.J. Gómez-Moreno, A. Narros, **C. Román-Cascón**, J.A. Arrillaga, M. Barreiro, J-M. de Andrés. Caracterización meteorológica del episodio de alta contaminación en Madrid durante la Navidad de 2016. *XXXV Jornadas Científicas de la Asociación Meteorológica Española. ISBN 2605-2202. 2018. Extended abstract.*

11 – **C. Román-Cascón**, G.J. Steeneveld, C. Yagüe, M. Sastre, J.A. Arrillaga and G. Maqueda. Estimating fog-top height through near-surface micrometeorological measurements. *7th International Conference on Fog, Fog Collection and Dew. ISBN 8362673540, 9788362673544. 2016. Conference proceedings book.*

10 – **C. Román-Cascón**, G.J. Steeneveld, C. Yagüe, M. Sastre, J.A. Arrillaga and G. Maqueda. Forecasting radiation fog at climatologically contrasting sites: evaluation of statistical methods and WRF. *7th International Conference on Fog, Fog Collection and Dew. ISBN 8362673540, 9788362673544. 2016. Conference proceedings book.*

9 – Carlos Yagüe, **C. Román-Cascón**, M. Sastre, G Maqueda, J.A. Arrillaga, B. Artíñano, E. Diaz-Ramiro, F. J. Gómez-Moreno, R. Borge, A. Narros, and J. Pérez. Campaña invernal del proyecto TECNAIRE: caracterización turbulenta y su influencia en las condiciones de la calidad del aire. *XXXIV Jornadas Científicas de la Asociación Meteorológica Española. Meteorología y calidad del aire. ISBN 978-84-617-5240-9. 2016. Extended abstract.*

8 – Jon Ander Arrillaga, C. Yagüe, Mariano Sastre and **C. Román-Cascón**. Evaluación de las características de la brisa marina en la costa cantábrica oriental mediante observaciones y simulaciones con el modelo WRF. *XXXIV Jornadas Científicas de la Asociación Meteorológica Española. Meteorología y calidad del aire. ISBN 978-84-617-5240-9. 2016. Extended abstract.*

7 – Mariano Sastre, C. Yagüe, **C. Román-Cascón**, G. Maqueda and J.A. Arrillaga. La transición vespertina en la capa límite atmosférica: comparativa entre dos sitios experimentales. *XXXIV Jornadas Científicas de la Asociación Meteorológica Española. Meteorología y calidad del aire. ISBN 978-84-617-5240-9. 2016. Extended abstract.*

6 – **Carlos Román-Cascón**, C. Yagüe, S. Viana, M. Sastre, G. Maqueda, M. Lothon and I. Gómara. Ondas de gravedad asociadas a un sistema convectivo de mesoescala cerca de los Pirineos. *XXXIII Jornadas Científicas de la Asociación Meteorológica Española. Tiempo, clima y sociedad. ISBN: 978-84-697-0685-5, 2014. Proceeding.*

5 – **Carlos Román-Cascón**, G. Morales, C. Yagüe, J. Calvo, M. Sastre and G. Maqueda. Predicción de un episodio persistente de nieblas de radiación con los modelos WRF y HARMONIE. *XXXIII Jornadas Científicas de la Asociación Meteorológica Española. Tiempo, clima y sociedad. ISBN: 978-84-697-0685-5, 2013. Proceeding.*

4 – Mariano Sastre, C. Yagüe, G.J. Steeneveld, **C. Román-Cascón** and G. Maqueda. Simulaciones de transiciones de la capa límite atmosférica con el modelo WRF: casos de estudio de la campaña BLLAST. *XXXII Jornadas Científicas de la Asociación Meteorológica Española. Meteorología y calidad del aire. ISBN 978-84-695-6430-1, 2014. Extended abstract.*

3 – Mariano Sastre, C. Yagüe, **C. Román-Cascón**, G. Maqueda and S. Viana. Transiciones vespertinas en la capa límite atmosférica durante la campaña BLLAST. *XXXII Jornadas Científicas de la Asociación Meteorológica Española. Meteorología y calidad del aire. ISBN 978-84-695-6430-1, 2012. Extended abstract.*

2 – **Carlos Román-Cascón**, C. Yagüe, M. Sastre, G. Maqueda, F. Salamanca and S. Viana. Observaciones y simulaciones con WRF de un caso de estudio de niebla de radiación: diciembre 2009. *XXXII Jornadas Científicas de la Asociación Meteorológica Española. Meteorología y calidad del aire. ISBN 978-84-695-6430-1, 2012. Proceeding.*

1 – **Carlos Román-Cascón**. Variability of turbulent fluxes (momentum, heat and CO2) during upwelling conditions: a case study. *Examensarbete vid Institutionen for geovetenskaper. Uppsala University (Sweden). Department of Meteorology. 55 pp. ISSN 1650-6553, 2010. Master thesis (Supervisor: Anna Rutgersson).*

Work presented in conferences and seminars

2025

184 – 25th Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2025. Torino (Italy)). Model and Observation for Surface-Atmosphere Interactions. *Coauthor (M. Lothon first author), oral presentation.*

183 – 25th Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2025. Torino (Italy)). Statistical Characterization of Nocturnal Downvalley Winds Over the Annual Cycle: A Case Study in a Pyrenean Valley (France). *Coauthor (P. Ortiz-Corral first author), poster.*

182 – 25th Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2025. Torino (Italy)). The Role of Turbulence and Thermally-Driven Flows in NO2 Pollution in Madrid (Spain): An observational and numerical assessment. *Coauthor (P. Ortiz-Corral first author), oral presentation.*

181 – 25th Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2025. Torino (Italy)). An analysis of the effects of tidal variations on the sea breezes formed in the Gulf of Cádiz. *Coauthor (E. Luján-Amoraga first author), poster.*

180 – 25th Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2025. Torino (Italy)). Improving the understanding of the horizontal and vertical characteristics of sea breezes from models and observations. *First author, oral presentation.*

179 – European Geosciences Union (EGU) General Assembly 2025. Vienna (Austria). OceanUCA: Technological innovation for the management and communication of coastal data in Andalusia through numerical modelling and open source technology. *Coauthor (J. Vasquez Rojas first author), oral presentation.*

178 – European Geosciences Union (EGU) General Assembly 2025. Vienna (Austria). Statistical Analysis of Nocturnal Downvalley Flows Over the Annual Cycle: Insights from a Pyrenean Valley (France) *Coauthor (P. Ortiz-Corral first author), poster (presented by Carlos Román Cascón).*

177 – European Geosciences Union (EGU) General Assembly 2025. Vienna (Austria). OceanUCA: Enhancing Coastal Observation and Forecasting in Andalucía (Spain) through Data Visualisation and Communication. *Coauthor (J. Carbone first author), oral (PICO) presentation.*

176 – European Geosciences Union (EGU) General Assembly 2025. Vienna (Austria). Dynamics of sea breezes: Analysis of recent events in Southwest Spain. *Coauthor (E. Luján-Amoraga first author), oral presentation.*

175 – European Geosciences Union (EGU) General Assembly 2025. Vienna (Austria). Horizontal and vertical analysis of sea breezes in the Gulf of Cádiz (SW Spain) from surface stations and radiosounding data. *First author, poster.*

174 – XIII Congreso de la Asociación Española de Climatología (AEC). El Escorial (Spain). Interacciones multi-escalares entre la estructura urbana y la atmósfera en el contexto de cambio climático (MULTIURBAN). *Coauthor (B. Sánchez first author), oral presentation.*

173 – XIII Congreso de la Asociación Española de Climatología (AEC). El Escorial (Spain). Análisis de eventos de vientos valle abajo y su interacción con otras escalas meteorológicas. *Coauthor (P. Ortiz-Corral first author), oral presentation.*

172 – XIII Congreso de la Asociación Española de Climatología (AEC). El Escorial (Spain). Influencia de las condiciones meteorológicas en el ciclo del carbono en un pastizal mediterráneo. *Coauthor (V. Cicuéndez first author), oral presentation.*

171 – XIII Congreso de la Asociación Española de Climatología (AEC). El Escorial (Spain). Estudio de la evolución de las temperaturas y de la isla térmica urbana en la ciudad de Madrid y alrededores. *Coauthor (C. Yagüe first author), poster.*

170 – XIII Congreso de la Asociación Española de Climatología (AEC). El Escorial (Spain). Urban Development and Thermally-Driven Flows: Understanding Madrid's Local Climate. *Coauthor (J. Carbone first author), oral presentation.*

169 – XIII Congreso de la Asociación Española de Climatología (AEC). El Escorial (Spain). OceanUCA: operational oceanographic and atmospheric system to improve coastal observation and forecasting in Andalucia: WRF model implementation. *Coauthor (J. Carbone first author), oral presentation.*

168 – XIII Congreso de la Asociación Española de Climatología (AEC). El Escorial (Spain). El papel del viento en la circulación superficial del golfo de Cádiz. *Coauthor (E. Luján first author), oral presentation.*

2024

167 – 3as Jornadas Luso-Españolas de Hidrografía. Cádiz (Spain). El papel del viento en la circulación superficial del golfo de Cádiz. *Coauthor (E. Luján first author), oral presentation.*

166 – 3as Jornadas Luso-Españolas de Hidrografía. Cádiz (Spain). OceanUCA: Adaptación y Consolidación de un Sistema de Oceanografía Operacional de los mares y estuarios del litoral andaluz para la monitorización, observación y transferencia a la sociedad de datos oceanográficos. *First author, oral presentation.*

165 – AMERIFLUX Annual Meeting 2024. Berkeley (California) and Online. The FLUXNET outreach working group: communicating flux science to society *First author, poster (online).*

164 – European Meteorological Society (EMS) Annual Meeting 2024. Barcelona (Spain). Measured and simulated turbulent flux over heterogeneous surface: MOSAI project (Model and Observation for Surface Atmosphere Interactions). *Coauthor (F. Lohou first author), oral presentation.*

163 – European Meteorological Society (EMS) Annual Meeting 2024. Barcelona (Spain). Valley Breezes within a valley in Pyrenees: Vertical and Horizontal structure and its Evolution Over the Annual Cycle Through Observations. *Coauthor (P. Ortiz-Corral first author), oral presentation.*

162 – European Meteorological Society (EMS) Annual Meeting 2024. Barcelona (Spain). Assessment of WRF-LES Model Performance in Simulating Valley Breezes and Vertical Structure of the Planetary Boundary Layer in the Pyrenees. *Coauthor (J. Carbone first author), oral presentation.*

161 – European Meteorological Society (EMS) Annual Meeting 2024. Barcelona (Spain). Integrating MODIS NDVI in the WRF model to improve simulations in the Iberian Peninsula: a case study in a Mediterranean grassland of central Spain. *Coauthor (V. Cicuéndez first author), oral presentation.*

160 – European Meteorological Society (EMS) Annual Meeting 2024. Barcelona (Spain). OceanUCA: towards the adaptation and consolidation of an Operational Oceanographic and Atmospheric System to improve the observation and forecasting of coastal physical processes in Andalusia. *First author and presentation, poster.*

159 – European Meteorological Society (EMS) Annual Meeting 2024. Barcelona (Spain). The FLUXNET outreach working group: communicating flux science to society *First author and presentation, poster.*

158 – International Symposium on Marine Science (ISMS). VIII Encuentro de Oceanografía Física (EOF) 2024. Valencia (Spain). Impact of sea coastal breezes on surface currents in the Gulf of Cádiz (Spain). *Coauthor (E. Luján-Amoraga first author), oral presentation.*

157 – International Symposium on Marine Science (ISMS). VIII Encuentro de Oceanografía Física (EOF) 2024. Valencia (Spain). OceanUCA: Towards the adaptation and consolidation of an Operational Oceanographic and Atmospheric System to improve the observation and forecasting of coastal physical processes in Andalusia. *First author and presentation, poster.*

156 – International Symposium on Marine Science (ISMS). VIII Encuentro de Oceanografía Física (EOF) 2024. Valencia (Spain). Towards a better comprehension of the interaction between coastal breezes and upper synoptic winds. *First author and presentation, oral presentation.*

155 – 9th Global Energy and Water Exchanges (GEWEX) Open Science Conference. Sapporo, Japan. Measured and simulated turbulent flux over heterogeneous landscapes: the Model and Observation for Surface Atmosphere Interactions (MOSAI) project experimental campaigns. *Coauthor (R. Roehrig first author), oral presentation.*

154 – Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes (HARMO) 2024. Parnü, Estonia. NOX infiltration modelling into a room of a real building in Madrid. *Coauthor (E. Rivas first author), oral presentation.*

153 – IX Simposio Científico de Alumnos de la Facultad de Ciencias del Mar y Ambientales (SACMA 2024). Puerto Real, Spain. Impacto de las brisas marinas en las corrientes superficiales del Golfo de Cádiz. *Coauthor (E. Luján-Amoraga first author), oral presentation.*

152 – Gulf of Cádiz Workshop (BOLA project). 2024. Puerto Real (Spain) The WINDABL project *First author and presentation, oral presentation.*

151 – Gulf of Cádiz Workshop (BOLA project). 2024. Puerto Real (Spain) The OceanUCA project *First author and presentation, oral presentation.*

150 – European Geosciences Union (EGU) General Assembly 2024. Vienna (Austria). Observational study and numerical simulations of sea breezes on the coast of Malaga. *Coauthor (P. Fernández-Castillo first author), poster.*

149 – European Geosciences Union (EGU) General Assembly 2024. Vienna (Austria). Investigating the impact of the vertical structure of the atmospheric boundary layer and the surface heterogeneities on the development of the valley and coastal breezes (the WINDABL project). *First author, presentation by Pablo Ortiz-Corral, poster.*

148 – European Geosciences Union (EGU) General Assembly 2024. Vienna (Austria). Impacts of Madrid's Urban Development on the Local Climate: A Comprehensive Analysis of the 1970-2020 Period. *Coauthor (J. Carbone first author), oral.*

147 – European Geosciences Union (EGU) General Assembly 2024. Vienna (Austria). Modelling Gross Primary Production of a Mediterranean grassland using Sentinel-2 NDVI and meteorological field information. *Coauthor (V. Cicuéndez first author), oral.*

146 – European Geosciences Union (EGU) General Assembly 2024. Vienna (Austria). Observational Study of Mountain Breezes in Heterogeneous Terrain: A Case Study in the Aure Valley (Lannemezan, French Pyrenees). *Coauthor (P. Ortiz-Corral first author), oral.*

145 – Scientific Journeys of the Spanish Meteorology Association (AME) 2024. Cádiz (Spain) Oscilaciones del nivel del mar forzadas por perturbaciones atmosféricas en la costa de Cádiz. *Coauthor (M. P. López first author), oral.*

144 – Scientific Journeys of the Spanish Meteorology Association (AME) 2024. Cádiz (Spain) Observational study and numerical simulations of sea breezes on the coast of Málaga. *Coauthor (P. Fernández-Castillo first author), oral.*

143 – Scientific Journeys of the Spanish Meteorology Association (AME) 2024. Cádiz (Spain) The exceptional cold wave subsequent to snowstorm Filomena. Analysis of the surface energy balance and associated microscale processes. *Coauthor (P. Fernández-Castillo first author), oral.*

142 – Scientific Journeys of the Spanish Meteorology Association (AME) 2024. Cádiz (Spain) Estudio observacional de las brisas de valle en terreno heterogéneo: Caracterización vertical y horizontal en el Valle de Aure (Pirineos). *Coauthor (P. Ortiz-Corral first author), oral.*

141 – Scientific Journeys of the Spanish Meteorology Association (AME) 2024. Cádiz (Spain) Impacts of urban expansion on near-surface air temperature and surface energy balance: WRF mesoscale modelling analysis for Madrid from 1970 to 2020. *Coauthor (J. Carbone first author), oral.*

140 – Scientific Journeys of the Spanish Meteorology Association (AME) 2024. Cádiz (Spain) El proyecto WINDABL. ¿Cómo impacta la estructura vertical de la atmósfera y las heterogeneidades superficiales en el desarrollo y características de las brisas costeras y de montaña? *First author and presentation, oral presentation.*

139 – Scientific Journeys of the Spanish Meteorology Association (AME) 2024. Cádiz (Spain) Relación entre el NVDI y los flujos turbulentos de calor en un pastizal mediterráneo. *Coauthor (V. Cicuéndez first author), oral.*

2023

138 – European Aerosol Science Conference 2023 (EAC). Málaga (Spain). Indoor air quality in two sensitive buildings of Madrid (Spain). *E. Alonso-Blanco first author and presentation, poster.*

137 – European Meteorological Society (EMS) Annual Meeting 2023. Bratislava (Slovakia). The WINDABL project. How are the Surface Thermally Driven Winds influenced by the vertical structure and horizontal inhomogeneities of the Atmospheric Boundary Layer? *First author and presentation, oral presentation.*

136 – European Meteorological Society (EMS) Annual Meeting 2023. Bratislava (Slovakia). How has the urban development of Madrid affected the local climate? Analysis of the last 50 years. *J. Carbone first author, oral presentation.*

135 – European Meteorological Society (EMS) Annual Meeting 2023. Bratislava (Slovakia). Modelling Gross Primary Production of a Mediterranean grassland using Sentinel 2 vegetation indices and meteorological field information *V. Cicuéndez first author, oral presentation.*

134 – European Geosciences Union (EGU) General Assembly 2023. Vienna (Austria). Coastal winds in the Gulf of Cádiz (southwestern Iberian Peninsula): insights from observations and models. *First author (P. Ortiz-Corral presentation), poster.*

133 – European Geosciences Union (EGU) General Assembly 2023. Vienna (Austria). Influence of gross primary production in energy partitioning in three different forest ecosystems based on Eddy Covariance time series analysis *Co-author (V. Cicuéndez first author), poster.*

132 – European Geosciences Union (EGU) General Assembly 2023. Vienna (Austria). Influence of the extraordinary Filomena snowstorm on the surface energy balance and its relationship with the subsequent very-low surface temperatures. *Co-author (P. Fernández first author), poster.*

131 – European Geosciences Union (EGU) General Assembly 2023. Vienna (Austria). Effects of near-surface atmospheric stability and turbulence on air pollution levels in Madrid. *Co-author (P. Ortiz-Corral first author), poster.*

130 – 1st breezes workshop (BREW). Puerto Real (Spain). Investigating Coastal Breezes from Models and Observations. Recent Analyses in the Gulf of Cádiz. *First author, oral presentation.*

129 – 13th coastal altimetry workshop & coastal altimetry training . Cádiz (Spain). Towards a better knowledge of the coastal breezes in the Gulf of Cádiz: some advances from observations and models. *First author, poster presentation.*

2022

128 – 10 Asamblea Hispano-Portuguesa de Geodesia y Geofísica (ahpgg). Toledo (Spain). How do the near-surface atmospheric stability and turbulence affect pollutants levels in Madrid? *Co-author, Pablo Ortiz-Corral first author.*

127 – 10 Asamblea Hispano-Portuguesa de Geodesia y Geofísica (ahpgg). Toledo (Spain). Study of the surface energy balance and its impacts on the extreme low temperatures in Spain after snowstorm Filomena *Co-author, Pablo Fernandez-Castillo first author.*

126 – 21st International Conference on Harmonization within Atmospheric Dispersion Modelling for Regulatory Purposes (HARMO). Aveiro (Portugal). Infiltration of NOx from road traffic into buildings by natural ventilation: a case study. *Co-author, Esther Rivas first author.*

125 – Meteorology and Air Quality Group (MAQ) Wageningen University. Wageningen (The Netherlands)). Investigating Coastal Breezes from Models and Observations. Recent Analyses in the Gulf of Cádiz (and in The Netherlands). *First author, oral presentation.*

124 – European Meteorological Society (EMS) Annual Meeting 2022. Bonn (Germany). Observational analysis of the wind speed and turbulence relationship with NO_2 concentration. *First author, oral presentation.*

123 – European Meteorological Society (EMS) Annual Meeting 2022. Bonn (Germany). Coastal-breeze simulation with the WRF model: analysing the sensitivity to land/sea surface temperature changes. *First author, oral presentation.*

122 – European Meteorological Society (EMS) Annual Meeting 2022. Bonn (Germany). Surface energy balance (SEB) analysis and extreme low temperatures in Spain after snowstorm Filomena. *Co-author, poster presentation (CRC presentation).*

121 – VII Expanding Ocean Frontiers (EOF) conference. VIII International Symposium on Marine Sciences (ISMS) 2022. Las Palmas de Gran Canaria (Spain). Analysis of the land cover impact on boundary layer height from WRF and BLLAST data. *First author, poster.*

120 – European Geosciences Union (EGU) General Assembly 2022. Vienna (Austria). Analysis of the land cover impact on boundary layer height from WRF and BLLAST data. *First author, oral.*

119 – European Geosciences Union (EGU) General Assembly 2022. Vienna (Austria). How do the local meteorology and turbulence influence the nitrogen dioxide concentration in Madrid? *Coauthor (C. Yagüe first author). Presenter Carlos Román (oral).*

118 – European Geosciences Union (EGU) General Assembly 2022. Vienna (Austria). Model and Observation for Surface Atmosphere Interactions (MOSAI) project. *Coauthor (F. Lohou first author), oral.*

2021

117 – European Meteorological Society (EMS) Annual Meeting 2021. ONLINE. Multi-scale analysis of turbulence data from AIRTEC-CM urban field campaigns in Madrid. *Co-author, online presentation.*

116 – European Meteorological Society (EMS) Annual Meeting 2021. ONLINE. How do the sea and the land conditions affect the coastal breezes? 20 days analysed from WRF simulations in the Gulf of Cádiz (Iberian Peninsula). *Firs author, online presentation.*

115 – European Geosciences Union (EGU) General Assembly 2021. ONLINE. How does the soil moisture influence the surface energy fluxes? An observational study at La Herrería Forest (Central Spain). *Co-author, online presentation.*

114 – European Geosciences Union (EGU) General Assembly 2021. ONLINE. How are the coastal breezes affected by changes in the land surface? Analysis from a case study using WRF. *Co-author, online presentation.*

113 – European Geosciences Union (EGU) General Assembly 2021. ONLINE. How do the surface energy fluxes change when a more realistic land cover is included in the WRF model? An evaluation using BLLAST data. *First author, online presentation.*

2020

112 – Meteorological Seminars within the Master in Meteorology and Geophysics. Surface representation impacts on turbulent heat fluxes in WRF. *First author, online presentation.*

111 – European Geosciences Union (EGU) General Assembly 2020. ONLINE. Investigating the relationship between soil moisture and evapotranspiration at different surfaces. Do we improve fluxes just improving the land use in models? *First author, online presentation.*

110 – European Geosciences Union (EGU) General Assembly 2020. ONLINE. Observational analysis of thermally-driven topographic flows and their turbulence-waves interaction. *Co-author, online presentation.*

109 – European Geosciences Union (EGU) General Assembly 2020. ONLINE. Analysis of temperature trends and urban heat island in Madrid. *Co-author, online presentation.*

108 – European Geosciences Union (EGU) General Assembly 2020. ONLINE. Analyzing the atmospheric scales involved in sea-breeze formation and frontal characteristics *Co-author, online presentation.*

107 – Charlas Informales Rápidas de Clima y Oceanografía. Instituto Universitario de Investigación Marina (INMAR). Universidad de Cádiz. Caracterización observacional de brisas de montaña y análisis de sus impactos en la concentración de CO_2. *First author, presentation.*

2019

106 – American Geosciences Union (AGU) Fall Meeting 2019. San Francisco (US). PriSM: From SMOS/SMAP Surface Soil Moisture to Precipitation Rate. *Co-author, oral.*

105 – American Geosciences Union (AGU) Fall Meeting 2019. San Francisco (US). Evaluation of WRF and HARMONIE models simulating a period with radiation and cloud-base-lowering fog events. *Co-author, poster.*

104 – American Geosciences Union (AGU) Fall Meeting 2019. San Francisco (US). Land Use, Soil Moisture and Surface Fluxes relations at two different areas: analysis from *in situ* data, satellite data and mesoscale simulations. *First author, poster.*

103 – 19th Journées CNES jeunes chercheurs. Toulouse (France). Land Cover - Soil Moisture - Surface Fluxes - What can we learn from in situ data, satellites and models? *First author, oral.*

102 – 35th International Conference on Alpine Meteorology (ICAM). Riva del Garda (Italy). Exit jet in a narrow Pyrenean valley: the Aure Valley 2018 field experiment. *Co-author, poster.*

101 – 35th International Conference on Alpine Meteorology (ICAM). Riva del Garda (Italy). Observations of Thermally-driven Circulations in the Pyrenees: Detection Methods and Impact on Atmospheric Composition Measured at a Mountain Top. *Co-author, poster.*

100 – European Meteorology Society (EMS) Annual Meeting 2019. Copenhagen (Denmark). Land Use, Soil Moisture and Surface Fluxes relations at two different areas: analysis from in situ data, satellite data and mesoscale simulations. *First author, poster.*

99 – European Geosciences Union (EGU) General Assembly 2019. Vienna (Austria). Evaluation of WRF and HARMONIE models simulating a period with radiation and cloud-base-lowering fog events. *Co-author, poster.*

98 – European Geosciences Union (EGU) General Assembly 2019. Vienna (Austria). Investigating mountain breezes characteristics and their effects on CO2 concentration at three different sites. *First author, poster.*

97 – 7th International Conference on Meteorology and Climatology of the Mediterranean (MetMed) 2019. Mallorca (Spain). Vallée d'Aure - exit jet and mountain-plain transport. *Coauthor, oral.*

2018

96 – Matinée scientifique Observatorie Midi-Pyrenees (OMP). 2018. Toulouse (France). Observational characterization of mountain breezes and their impacts on CO_2 mixing ratios. *First author, oral.*

95 – European Meteorology Society (EMS) Annual Meeting 2018. Budapest (Hungary). How do traffic intensity and turbulence levels affect pollutants concentration in urban traffic hot spots? Analysis from field campaign data in Madrid. *First author, poster.*

94 – European Meteorology Society (EMS) Annual Meeting 2018. Budapest (Hungary). Analyzing features and impacts of mountain breezes at three different mountainous sites. *First author, oral.*

93 – 18th conference on Mountain Meteorology (American Meteorological Society) (BLT-MM) 2018. Santa Fe (US). Mountain breezes at three different sites: Salt Lake Valley, The Pyrenees and Guadarrama Mountain Range. *First author, poster.*

92 – RICTA. Reunión Ibérica de Ciencia y Tecnología de Aerosoles 2018. Bilbao (Spain). Influence of the vegetation cover in reducing the pollution effects in a hot spot. *Coauthor (F. J. Gómez Moreno first author), poster.*

91 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2018. Oklahoma City (US). Mountain breezes at three different sites: Salt Lake Valley, The Pyrenees and Guadarrama Mountain Range. *First author, oral.*

90 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2018. Oklahoma City (US). Winter and summer field campaigns in hot spots in Madrid (Spain): influence of turbulence on air quality. *Coauthor (C. Yagüe first author), poster.*

89 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2018. Oklahoma City (US). On the complex interaction between the sea breeze and the boundary-layer turbulence before, during and after the afternoon transition. *Coauthor (J. A. Arillaga first author), oral.*

88 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2018. Oklahoma City (US). Nature and characteristics of weak and intense katabatic flows *Coauthor (J. A. Arillaga first author), poster.*

87 – BLLAST campaign workshop 2018. Palma de Mallorca (Spain). Katabatics, anabatics winds and their impacts on CO_2. *First author, oral.*

86 – VI workshop REMEDIA 2018. Granada (Spain). La Red GuMNet: Investigación sobre Flujos micro- mesometeorológicos y su influencia sobre los flujos de gases de efecto invernadero y energía. *Coauthor (R. M. Inclán first author), poster.*

85 – European Geosciences Union (EGU) General Assembly 2018. Vienna (Austria). Key turbulence parameters influencing pollutant concentrations during summer and winter field campaigns in a hot spot in Madrid. *Coauthor (C. Yagüe first author), poster.*

84 – European Geosciences Union (EGU) General Assembly 2018. Vienna (Austria). Nature and characteristics of weak and intense katabatic flows. *Coauthor (J. A. Arrillaga first author), poster.*

83 – Scientific Journeys of the Spanish Meteorology Association (AME) 2018. León (Spain) Los vientos catabáticos y su impacto en el régimen estable nocturno durante el verano de 2017 en La Herrería (Madrid). *Coauthor (J. A. Arrillaga first author), oral.*

82 – Scientific Journeys of the Spanish Meteorology Association (AME) 2018. León (Spain) Caracterización meteorologica del episodio de alta contaminación en Madrid durante la navidad de 2016. *Coauthor (C. Yagüe first author), oral.*

2017

81 – European Geosciences Union (EGU) General Assembly 2017. Vienna (Austria). Correcting satellite-based precipitation products from SMOS soil moisture data assimilation using two models of different complexity. *First author, oral.*

80 – European Geosciences Union (EGU) General Assembly 2017. Vienna (Austria). Study of the air quality in the surroundings of an urban park: A micrometeorological approach. *Coauthor (M. Sastre first author), poster.*

79 – European Geosciences Union (EGU) General Assembly 2017. Vienna (Austria). Turbulence influence on urban air pollution in a hot spot in Madrid: comparison of winter and summer field campaigns. *Coauthor (C. Yagüe first author), poster.*

78 – European Geosciences Union (EGU) General Assembly 2017. Vienna (Austria). Local and regional characterisation of the diurnal mountain wind systems in the Guadarrama mountain range (Spain). *Coauthor (J.A. Arrillaga first author), poster.*

77 – European Geosciences Union (EGU) General Assembly 2017. Vienna (Austria). SMOS+RAINFALL: Evaluating the ability of different methodologies to improve rainfall estimations using soil moisture data from SMOS. *Coauthor (T. Pellarin first author), poster.*

76 – European Meteorology Society (EMS) Annual Meeting 2017. Dublin (Ireland). Study of the air quality in the surroundings of an urban park: A micrometeorological approach. *Co-author (M. Sastre first author), oral.*

75 – European Meteorology Society (EMS) Annual Meeting 2017. Dublin (Ireland). Mesoscale-turbulence interactions in the ABL dynamics: a 10-year study in Cabauw (Netherlands). *Co-author, (J.A. Arrillaga first author), oral.*

74 – Meteorology And Climate – Modeling for Air Quality Conference 2017. Davis (California). 10-year analysis of sea-breeze phenomena: implications for scalar transport and challenging interaction with local turbulence. *Co-author (J.A Arrillaga first author), oral.*

73 – Meteorology And Climate – Modeling for Air Quality Conference 2017. Davis (California). Assessment of the influence of urban turbulence on air pollution in a hot spot in Madrid (Spain): an observational approach. *Co-author M. Sastre first author), poster.*

72 – European Aerosol Conference (EAC) 2017. Zurich (Switzerland). Spatial distribution of particulate matter and its temporal evolution in a complex hot spot with influence in an urban park. *Co-author (F.G. Gómez Moreno first author), poster.*

2016

71 – European Meteorology Society (EMS) Annual Meeting 2016. Trieste (Italy). Exploring the formation and dissipation of radiation fog from observational data and numerical model results (WRF and HARMONIE). *First author, poster.*

70 – European Geosciences Union (EGU) General Assembly 2016. Vienna (Austria). Can we estimate the fog-top height from atmospheric turbulent measurements at surface? *First author, poster.*

69 – European Geosciences Union (EGU) General Assembly 2016. Vienna (Austria). Turbulence-wave interactions associated to drainage flows observed during the BLLAST field campaign. *Coauthor (C. Yagüe first author), poster.*

68 – European Geosciences Union (EGU) General Assembly 2016. Vienna (Austria). TECNAIRE winter field campaign: turbulent characteristics and their influence on air quality conditions. *Coauthor (C. Yagüe first author), poster.*

67 – European Geosciences Union (EGU) General Assembly 2016. Vienna (Austria). Study of the origin and structure of a nocturnal atmospheric density current from observations and numerical simulations. *Coauthor (J.A. Arrillaga first author), poster.*

66 – European Geosciences Union (EGU) General Assembly 2016. Vienna (Austria). Seasonal analysis of the planetary boundary-layer afternoon and evening transition through observational measurements *Coauthor (M. Sastre first author), oral.*

65 – European Geosciences Union (EGU) General Assembly 2016. Vienna (Austria). Rainfall estimation over-land using SMOS soil moisture observations: SM2RAIN, LMAA and SMART algorithms. *Coauthor (C. Massari first author), oral.*

64 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2016. Salt Lake City (US). Can we estimate the fog-top height from atmospheric turbulent measurements at surface? *First author, poster.*

63 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2016. Salt Lake City (US). Atmospheric boundary-layer afternoon and evening transitions: An observational seasonal study. *Co-author (M. Sastre first author), oral.*

62 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2016. Salt Lake City (US). Sea-breeze characteristics over complex terrain: an evaluation from observational data and WRF simulations. *Co-author (J.A. Arrillaga first author), oral.*

61 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2016. Salt Lake City (US). WRF simulations of upslope and downslope flows over the Guadarrama mountain range (Spain). *Co-author (J.A. Arrillaga first author), poster.*

60 – Symposium on Boundary Layers and Turbulence (American Meteorological Society)(BLT-AMS) 2016. Salt Lake City (US). GuMNet - A High Altitude Monitoring Network in The Guadarrama Mountain Range (Spain). *Co-author (J.A. Arrillaga first author), poster.*

59 – Scientific Journeys of the Spanish Meteorology Association (AME) 2016. Teruel (Spain). *Campaña invernal del proyecto TECNAIRE: caracterización turbulenta y su influencia en las condiciones de calidad del aire. Co-author (C. Yagüe first author), oral.*

58 – Scientific Journeys of the Spanish Meteorology Association (AME) 2016. Teruel (Spain). *Evaluación de las características de la brisa marina en la costa cantábrica oriental mediante observaciones y simulaciones con el modelo WRF. Co-author (J.A. Arrillaga first author), oral.*

57 – Scientific Journeys of the Spanish Meteorology Association (AME) 2016. Teruel (Spain). *La transición vespertina en la capa límite atmosférica: comparativa entre dos sitios experimentales. Co-author (M. Sastre first author), oral.*

56 – BLLAST campaign workshop 2016. Wageningen (The Netherlands). WRF evaluation on atmospheric boundary-layer transitions and diurnal cycles. *Co-author (M. Sastre first author), oral.*

55 – BLLAST campaign workshop 2016. Wageningen (The Netherlands). Forecasting radiation fog at climatologically contrasting sites: evaluation of statistical methods and WRF. *First author (G.J. Steeneveld presentation), oral.*

54 – Workshop on Urban and Regional Air Quality 2016. Valencia (Spain) Air quality assessment in a traffic urban hotspot in Madrid (Spain) through an experimental field campaign and high resolution modelling. *Co-author (R. Borge first author), oral.*

53 – European Aerosol Conference (EAC) 2016. Tours (France). Temporal and spatial particulate matter distribution in a complex hot spot. *Co-author (F.G. Gómez Moreno first author), poster.*

52 – Conference on Air Quality 2016. Milan (Italy). Distribution of particule matter concentrations in a complex traffic hot spot. *Co-author (B. Artiñano first author), poster.*

51 – International Conference on Fog, Fog Collection and Dew 2016. Wroclaw (Poland). Estimating fog-top height through near-surface micrometeorological measurements. *First author. G-J. Steeneveld presentation, poster.*

50 – International Conference on Fog, Fog Collection and Dew 2016. Wroclaw (Poland). Forecasting radiation fog at climatologically contrasting sites: evaluation of statistical methods and WRF. *First author. G-J. Steeneveld presentation, oral.*

49 – CESAR Science Day 2016. Cabauw (The Netherlands). Estimating fog-top height through near-surface micrometeorological measurements. *First author. G-J. Steeneveld presentation, oral.*

48 – CESAR Science Day 2016. Cabauw (The Netherlands). Forecasting radiation fog at climatologically contrasting sites: evaluation of statistical methods and WRF. *First author. G-J. Steeneveld presentation, oral.*

47 – 9ª Asamblea Hispano Portuguesa de Geodesia y Geofísica 2016. Madrid (Spain) Evaluation of fog-top height from surface micrometeorological measurements. *First author and presentation, oral.*

2015

46 – European Geosciences Union (EGU) General Assembly 2015. Vienna (Austria). Interactions among gravity waves, shallow drainage flows and turbulence in the stable boundary layer. *First author, poster.*

45 – European Geosciences Union (EGU) General Assembly 2015. Vienna (Austria). An observational and numerical study of the sea breeze in the eastern Cantabrian Sea. *Coauthor (J.A. Arrillaga first author), poster.*

44 – European Geosciences Union (EGU) General Assembly 2015. Vienna (Austria). The atmospheric boundary layer evening transitions: an observational and numerical study from two different datasets *Coauthor (M. Sastre first author), poster.*

43 – BLLAST campaign workshop 2015. Barcelona (Spain). Interactions among gravity waves, shallow drainage flows and turbulence in the stable boundary layer. *First author and presentation, oral.*

42 – BLLAST campaign workshop 2015. Barcelona (Spain). A comparison between atmospheric boundary layer evening transitions at two experimental sites. *Co-author (M. Lothon first author), oral.*

41 – Iberian Meeting on Aerosol Science and Technology 2015. Elche (Spain) Microscale variations of ambien particle concentration in an urban traffic hot spot. *Co-author (B. Artiñano first author), poster.*

40 – 12th Urban Enviromental Symposium – Urban Futures for a Sustainable World HUES 2015. Oslo (Norway) Experimental characterization of the ambient particulate mass concentration field in complex urban areas. *Co-author (B. Artiñano first author), poster.*

2014

39 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2014. Leeds (UK). Radiation fogs over two sites at Southern and Northern Europe (Spain and The Netherlands). *First author and presentation, oral.*

38 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2014. Leeds (UK). Observational analysis of gravity waves associated with a convective system near the Pyrenees during the BLLAST campaign. *First author and presentation, poster.*

37 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2014. Leeds (UK). Study of the atmospheric boundary layer evening transitions using two different datasets: an observational and numerical approach. *Co-author (M. Sastre first author), oral.*

36 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2014. Leeds (UK). WRF sensitivity to boundary-layer and land-surface schemes during the evening transition: validation with BLLAST case study. *Co-author (M. Sastre first author), poster.*

35 – European Meteorology Society (EMS) Annual Meeting 2014. Prague (Czech Republic). Radiation fogs: WRF and LES numerical experiments. *First author and presentation, oral.*

34 – European Meteorology Society (EMS) Annual Meeting 2014. Prague (Czech Republic). Near monochromatic ducted gravity waves associated with a convective system close to the Pyrenees. *First author and presentation, oral.*

33 – European Meteorology Society (EMS) Annual Meeting 2014. Prague (Czech Republic). Boundary-layer and land-surface schemes in WRF for the evening transition during the BLLAST campaign. *Co-author (M. Sastre first author), oral.*

32 – European Geosciences Union (EGU) General Assembly 2014. Vienna (Austria). WRF tests on sensitivity to PBL and LSM schemes during atmospheric transition periods: validation with BLLAST case studies. *Coauthor (M. Sastre first author), oral.*

31 – European Geosciences Union (EGU) General Assembly 2014. Vienna (Austria). Radiation fogs at two experimental sites in Europe: CIBA (Spain) and CESAR/Cabauw (The Netherlands). *First author and presentation, poster.*

30 – Scientific Journeys of the Spanish Meteorology Association (AME) 2014. Oviedo (Spain). *Simulaciones de transiciones de la capa límite atmosférica con el modelo WRF: casos de estudio de la campaña BLLAST. Co-author (M. Sastre first author), oral.*

29 – Scientific Journeys of the Spanish Meteorology Association (AME) 2014. Oviedo (Spain). *Predicción de un episodio persistente de nieblas de radiación con los modelos WRF y HARMONIE. First author, oral.*

28 – Scientific Journeys of the Spanish Meteorology Association (AME) 2014. Oviedo (Spain). *Ondas de gravedad asociadas a un sistema convectivo de mesoescala cerca de los Pirineos. First author, oral.*

2013

27 – BLLAST campaign workshop 2013. Bergen (Norwey). Gravity waves observed during BLLAST. *First author, oral.*

26 – BLLAST campaign workshop 2013. Bergen (Norwey). Sensitivity of LSM and PBL schemes in WRF simulations of the Atmospheric Boundary Layer during the BLLAST campaign. *Co-author (M. Sastre first author), oral.*

25 – Workshop on Bio-environmental turbulence 2013. Madrid (Spain) A case study of shallow radiation fogs over CIBA: Observations and simulations (WRF and HARMONIE models). *First author and presentation, oral.*

24 – Workshop on Bio-environmental turbulence 2013. Madrid (Spain) WRF simulations of the atmospheric boundary layer evening transitions during the BLLAST field campaign. *Co-author (M. Sastre first author), oral.*

23 – European Geosciences Union (EGU) General Assembly 2013. Vienna (Austria). Cloudiness forecast with WRF mesoscale model: Validation from BLLAST 2011 field campaign. *Coauthor (A. González-Zamora first author), poster.*

22 – European Geosciences Union (EGU) General Assembly 2013. Vienna (Austria). Verification of fog and low cloud simulations using an object oriented method *Coauthor (G. Morales first author), poster.*

21 – European Geosciences Union (EGU) General Assembly 2013. Vienna (Austria). WRF simulations of the atmospheric boundary layer evening transitions during the BLLAST field campaign. *Coauthor (M. Sastre first author), poster.*

20 – European Geosciences Union (EGU) General Assembly 2013. Vienna (Austria). A case study of shallow radiation fogs over CIBA: Observations and simulations (WRF and HARMONIE models). *First author and presentation, poster.*

2012

19 – BLLAST campaign workshop 2012. Firenze (Italy). Evening transitions from the microbarometers point of view. *First author and presentation, oral (with M. Sastre).*

18 – Wave-turbulence interactions in stable atmospheric boundary layers (WINABL) 2012. Boulder (USA). Observations of wave-like motions from the BLLAST 2011 field campaign. *Co-author (C. Yagüe first author), oral.*

17 – Buys Ballot Research School (BBOS) 2012. Nijmegen (The Netherlands). From diurnal to nocturnal boundary layer: the afternoon and evening transition. *Co-author (M. Sastre first author), oral.*

16 – Land Atmosphere Interactions at the regional scales 2012. Madrid (Spain). WRF physical options affecting simulations of radiation fogs: turbulence, microphysics and land-surface schemes. *First author and presentation, poster.*

15 – Scientific Journeys of the Spanish Meteorology Association (AME) 2012. Alcobendas (Spain). *La campaña experimental BLLAST 2011: Boundary Layer Late Afternoon and Sunset Turbulence. Co-author (M. Lothon first author), oral.*

14 – Scientific Journeys of the Spanish Meteorology Association (AME) 2012. Alcobendas (Spain). *Transiciones vespertinas en la capa límite atmosférica durante la campaña BLLAST. Co-author (M. Sastre first author), oral.*

13 – Scientific Journeys of the Spanish Meteorology Association (AME) 2012. Alcobendas (Spain). *Observaciones y simulaciones con WRF de un caso de estudio de niebla de radiación: Diciembre 2009. First author and presentation, oral.*

12 – European Meteorology Society (EMS) Annual Meeting 2012. Łódź (Poland). Atmospheric Boundary Layer evening transitions: a comparison between two experimental sites (CIBA-Spain and BLLAST-France). *Co-author (M. Sastre first author), oral.*

11 – European Meteorology Society (EMS) Annual Meeting 2012. Łódź (Poland). Observations compared to WRF simulations using different PBL parameterizations. *First author and presentation, oral.*

10 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2012. Boston (US). The Boundary Layer Late Afternoon and Sunset Turbulence 2011 field experiment. *Co-author (M. Lothon first author), oral.*

9 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2012. Boston (US). Pressure perturbations and multi-scale analysis in the atmospheric boundary layer at the afternoon and evening transition during the BLLAST campaign. *Co-author (M. Sastre first author), oral.*

8 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2012. Boston (US). Wave-like Events detected from microbarometers measurements during BLLAST campaign. *First author and presentation, poster.*

7 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2012. Boston (US). Radiation Fog Case Study: Observational Analysis and WRF modeling *First author and presentation, oral*

6 – Symposium on Boundary Layers and Turbulence (American Meteorological Society) (BLT-AMS) 2012. Boston (US). Role of residual layer and large-scale phenomena on the evolution of the boundary layer. *Co-author (E. Blay first author), poster.*

5 – European Geosciences Union (EGU) General Assembly 2012. Vienna (Austria). Pressure fluctuations associated to rainy days during BLLAST campaign. *First author and presentation, poster.*

4 – European Geosciences Union (EGU) General Assembly 2012. Vienna (Austria). Characterization of evening atmospheric boundary layer transitions from a sonic anemometer and an array of microbarometers during the BLLAST field campaign. *Coauthor (M. Sastre first author), poster.*

2011

3 – European Meteorology Society (EMS) Annual Meeting 2011. Berlin (Germany). Evening transitions of the atmospheric boundary layer: global characterization and case studies. *Co-author (M. Sastre first author), poster.*

2 – European Meteorology Society (EMS) Annual Meeting 2011. Berlin (Germany). Interaction between radiation fogs and turbulence: statistics, analysis and WRF simulations. *First author and presentation, oral.*

1 – European Geosciences Union (EGU) General Assembly 2011. Vienna (Austria). Study of the Interaction between fog and turbulence. *First author and presentation, poster.*

Responsible of research visits

1. Postdoc student. Rubén Vázquez. University of Alcalá (Spain). 01 Mar 2024 to 31 Apr 2024 (2 months). Visit to the University of Cádiz in the frame of a collaboration with the WINDABL project to investigate wind energy resources linked to coastal breezes.
2. PhD student. Mathilde Jomé. University of Toulouse Paul Sabatier; Laboratoire d'Aérologie (France). November 2023 to December 2023 (2 months). Visit to the University of Cádiz in the frame of a collaboration with the WINDABL, MOSAI and LATMOS-i projects (PhD scientific stay).
3. Master student. Tina Brnas. University of Split (Croatia). November 2022 to June 2023 (7 months). Visit to the University of Cádiz for a master thesis (ERASMUS grant).

Outreach

1. 2023-current. Member of the FLUXNET Outreach Committee.
2. 2024. Organizer of outreach activity. Noche de los investigadores 2024. July 2024. Atmospheric radiosounding launchings and visit to meteorological station.
3. 2023. Pint of Sciences. "Land, sea, and air, the chaos". Oral presentation in Bar-Theater Pay-Pay (Cádiz, Spain).
4. 2023. Blog entry. NEMOR blog. "Growing up near the mountains".
5. 2022. Participant of outreach activity. Noche de los investigadores 2022. September 2022.The POCARISA plattform.
6. 2011-2015. Participation (also organization in 2014) of activity "Popularizing Science of Atmosphere and Ocean" (atmosphere and ocean experiments, Sciences Week Exhibitions from 2011 to 2015 at the University Complutense of Madrid).
7. 2011-2012. Volunteer performing the *Weather forecast for the weekend for Madrid.*

Grants, prizes and certifications

1. i3 Certification (Outstanding Research Career by the Ministry of Science and Innovation), 2023.
2. Prize. Best Presentation of the Meteorology and Atmospheric Sciences section of the 10 ahpgg in Toledo (Spain). Co-author of the work presented by Pablo Fernández-Castillo, Nov 2022
3. Fellowship (scientific stay). Wageningen Institute for Environment and Climate Research (WIMEK). 1-month grant, Aug 2022.
4. Fellowship. *Juan de la Cierva Incorporación*. Spanish Ministry of Science, Innovation and Universities. 3 years grant (2022-2025).

5. Fellowship. CNES (Centre National d'Études Spatiales) Postdoctoral Fellowship (2 years, 2019-2020, France).
6. Prize. PhD Extraordinary Prize (University Complutense of Madrid, Physics Faculty, 2015/2016 promotion).
7. Fellowship. FPI (Formation of PhD researchers program) 2014. Ministry of Economy. 4 years grant.
8. Fellowship (scientific stay). Wageningen Institute for Environment and Climate Research (WIMEK). 5-months grant.
9. Prize. 2014 Best Student Poster Presentation - 21st Symposium on Boundary Layers and Turbulence. Boston (US).
10. Fellowship. 1st VALUE training school: Introduction to Dynamical and Statistical downscaling (6-15 November 2012). Santander (Spain). VALUE (COST ACTION ES1102). Local organizer: Santander Meteorology group.
11. Fellowship. 2012 EMS Young Scientist Travel Award (YSTA) (Łódź, Poland).
12. Fellowship. 2012 EGU Young Scientist´s Travel Award for Europeans (YSTA) (Vienna, Austria).
13. Certification for Spanish Assistant Professor (*Profesor Ayudante Doctor*, *Profesor Contratado Doctor*, and *Profesor de Universidad Privada*).

Other merits

1. Organiser of 1st Breezes Workshop (BREW). 30 participants. Puerto Real (Cádiz), Feb 2023.
2. Convener of the session UP 1.2 (Atmospheric boundary-layer processes, turbulence and land-atmosphere interactions) of the European Meteorological Society (EMS) annual meetings, from 2020.
3. Guest editor of the journal Advances in Sciences and Research (ASR, Copernicus Publications).
4. Reviewer for following funding agencies: *ETH Zürich*.
5. Reviewer for the following scientific journals: *Quarterly Journal of the Royal Meteorological Society*, *Atmospheric Measurements Techniques*, *Remote Sensing of Environment*, *Remote Sensing*, *Atmósfera*, *Atmosphere*, *Land*, *International Journal of Environmental Research and Public Health*, and *Journal of Applied Meteorology and Climatology*.
6. Oceanic campaign EMIGAS 2007 (May 2007. Gulf of Cádiz). University of Cádiz. Voluntary participation.
7. Organizer of "Seminars series in the frame of The Master in Geophysics and Meteorology" 2012 - 2013.
8. 2019 MesoNH tutorial (4 days). Météo-France (Toulouse).
9. Attendance to "A Tribute to Joël Noilhan" (land-surface scientific career). 18-19 March 2019. Toulouse.
10. Conference assistant in BLT AMS 2012 Conference (Boston, July 2012) and in MedClivar Conference (Madrid, September 2012).
11. English courses in St. Julian (Malta, 2007) and Auckland (New Zealand, 2008).
12. Coastal Skipper license (up to 12 meters in length and 12 nautical miles from coast).
13. Technical Environmental Vigilant from May 2008 to August 2008 for birds environmental protection. INTERLAB S.A. Wind power zone in Tarifa (Spain).
