

CURRICULUM VITAE

di Enzo Papandrea

Name and Surname	
Enzo Papandrea	
Company	
CNR ISAC	
Role	
Researcher	
Education	
MSc. in Industrial Chemistry, 2000, University of Bologna (Italy)	
Experience	
Since 2019: Full time researcher at CNR-ISAC, Bologna, Italy	
Research interests	<ul style="list-style-type: none"> • Satellite remote sensing of atmospheric gases • Radiative transfer models for simulations of atmospheric spectra of different sensors • Ground-based remote sensing instruments (e.g. using DOAS and FTIR techniques) • Retrieval codes for atmospheric gases • Validation of atmospheric level 2 products
Recent Projects	
2024 - present	ESA project "SENTINE-6 NG Radiometer study". Participation in activities WP 1500 and WP 3300
2024 - present	ESA project "CAIRT Phase A Mission Performance and Requirement Consolidation (PerReC) Activity". WP 8600 leader, Study of the impact of CAIRT measurements on volcanic ash detection for aviation safety, WP 7620 participant, Simulation of CAIRT measurements and sensitivity tests for volcanic ash detection for safety aviation.
2024 - present	ASI project "CASIA - CAIRT: Analisi e Sinergia con IASI-NG". Participation in WP 3700, comparison of radiative transfer codes.
2023 - present	ASI project "Fit - Forum - Forward and Inverse Tool for FORUM". Participation in WP 3.1 (spectroscopy) and 7.2 (σ -FORUM applications).
2023 - present	PNRR "EMM - Earth-Moon-Mars". WP 1500.8 leader: Nadir and limb radiative transfer models for Earth, Mars and other Planetary atmospheres.
2023 - present	PNRR PRIN 2022 "Measuring tropospheric water vapour through the Normalized Differential Spectral Attenuation (NDSA) technique". Data analysis using MAX-DOAS instrument, located in San Pietro Capofiume (Bologna, Italy) during measurement campaign with NDSA instrument.
2023 - present	ESA project "Total Column Water Vapour Essential Climate Variable from (A)ATSR(-1/2) reprocessed L1 data series using AIRWAVE-V3", process the re-processed ATSR Level 1 data to obtain water vapour profiles.

2022 - present	PNRR "ITINERIS - Italian Integrated Environmental Research Infrastructures System". Participation in one activity (4.14)
Recent peer reviewed publications	
<ol style="list-style-type: none"> 1) Trent, T., Schröder, M., Ho, S.-P., Beirle, S., Bennartz, R., Borbas, E., Borger, C., Brogniez, H., Calbet, X., Castelli, E., Compo, G. P., Ebisuzaki, W., Falk, U., Fell, F., Forsythe, J., Hersbach, H., Kachi, M., Kobayashi, S., Kursinski, R. E., Loyola, D., Luo, Z., Nielsen, J. K., Papandrea, E., Picon, L., Preusker, R., Reale, A., Shi, L., Slivinski, L., Teixeira, J., Vonder Haar, T., and Wagner, T.: Evaluation of total column water vapour products from satellite observations and reanalyses within the GEWEX Water Vapor Assessment, <i>Atmos. Chem. Phys.</i>, 24, 9667–9695, https://doi.org/10.5194/acp-24-9667-2024, 2024. 2) Pettinari, P.; Castelli, E.; Papandrea, E.; Busetto, M.; Valeri, M.; Dinelli, B.M. Towards a New MAX-DOAS Measurement Site in the Po Valley: NO₂ Total VCDs. <i>Remote Sens.</i> 2022, 14, 3881. https://doi.org/10.3390/rs14163881. 3) Pettinari, P.; Donato, A.; Papandrea, E.; Bortoli, D.; Pappaccogli, G.; Castelli, E. Analysis of NO₂ and O₃ Total Columns from DOAS Zenith-Sky Measurements in South Italy. <i>Remote Sens.</i> 2022, 14, 5541. https://doi.org/10.3390/rs14215541. 4) Dinelli, B. M., Raspollini, P., Gai, M., Sgheri, L., Ridolfi, M., Ceccherini, S., Barbara, F., Zopetti, N., Castelli, E., Papandrea, E., Pettinari, P., Dehn, A., Dudhia, A., Kiefer, M., Piro, A., Flaud, J.-M., López-Puertas, M., Moore, D., Remedios, J., and Bianchini, M.: The ESA MIPAS/Envisat level2-v8 dataset: 10 years of measurements retrieved with ORM v8.22, <i>Atmos. Meas. Tech.</i>, 14, 7975–7998, https://doi.org/10.5194/amt-14-7975-2021, 2021. 5) Castelli, Elisa, Enzo Papandrea, Alessio Di Roma, Ilaria Bloise, Mattia Varile, Hamid Tabani, Jean-Philippe Gastellu-Etchegorry, and Lorenzo Feruglio. 2021. "Deep Learning Application to Surface Properties Retrieval Using TIR Measurements: A Fast Forward/Reverse Scheme to Deal with Big Data Analysis from New Satellite Generations" <i>Remote Sensing</i> 13, no. 24: 5003. https://doi.org/10.3390/rs13245003. 6) Papandrea, E., Casadio, S., Castelli, E., Dinelli, B. M., and Miglietta, M. M.: Lee wave detection over the Mediterranean Sea using the Advanced Infra-Red Water Vapour Estimator (AIRWAVE) total column water vapour (TCWV) dataset, <i>Atmos. Meas. Tech.</i>, 12, 6683–6693, https://doi.org/10.5194/amt-12-6683-2019, 2019. 7) Lossow, S., Khosrawi, F., Kiefer, M., Walker, K. A., Bertaux, J.-L., Blanot, L., Russell, J. M., Remsberg, E. E., Gille, J. C., Sugita, T., Sioris, C. E., Dinelli, B. M., Papandrea, E., Raspollini, P., García-Comas, M., Stiller, G. P., von Clarmann, T., Dudhia, A., Read, W. G., Nedoluha, G. E., Damadeo, R. P., Zawodny, J. M., Weigel, K., Rozanov, A., Azam, F., Bramstedt, K., Noël, S., Burrows, J. P., Sagawa, H., Kasai, Y., Urban, J., Eriksson, P., Murtagh, D. P., Hervig, M. E., Högberg, C., Hurst, D. F., and Rosenlof, K. H.: The SPARC water vapour assessment II: profile-to-profile comparisons of stratospheric and lower mesospheric water vapour data sets obtained from satellites, <i>Atmos. Meas. Tech.</i>, 12, 2693–2732, https://doi.org/10.5194/amt-12-2693-2019, 2019. 	
Conferences	
<ol style="list-style-type: none"> 1) Enzo Papandrea, Stefano Casadio, Elisa Castelli, Bianca M. Dinelli, Paolo Pettinari, Margherita Premuda, Massimo Valeri, Bojan Bojkov, AIRWAVE-SLSTR: an algorithm to retrieve TCWV from Sentinel 3 SLSTR observations, ATMOS 2024, 1-5 July Bologna, Italy. 2) Enzo Papandrea; M. Valeri; B. M. Dinelli; E. Castelli; P. Pettinari; A. Achilli; M. Premuda; S. Casadio; B. Bojkov, AIRWAVE-SLSTR Follow-On Study, 5-7 December 2023, Sentinel-3 Validation Team Meeting, Darmstadt, Germany. 3) Enzo Papandrea, Elisa Castelli, Alessio Di Roma, Lorenzo Feruglio, Ilaria Bloise, Mattia Varile, Hamid Tabani, Retrieving Land Surface Temperature from Thermal Infra-Red Spectra Generated with Generative Adversarial Networks and AutoEncoders Models, INTERNATIONAL RADIATION SYMPOSIUM 2022, Thessaloniki, Greece, 4-8 July 2022. 4) Paolo Pettinari, Elisa Castelli, Enzo Papandrea, Maurizio Busetto, Massimo Valeri, Towards a FRM4DOAS-compliant site in the Po Valley, INTERNATIONAL RADIATION SYMPOSIUM 2022, Thessaloniki, Greece, 4-8 July 2022. 5) Bianca M. Dinelli, Elisa Castelli, Enzo Papandrea, Paolo Pettinari, Giacomo Lorenzi, Stefano Casadio, Massimo Valeri, and Bojan Bojkov, AIRWAVE-SLSTR version 2: implementation and preliminary validation results of the retrieved TCWV, EUMETSAT Meteorological Satellite Conference 2022, Brussels, Belgium, 19-23 September 2022. 6) E. Castelli, P. Pettinari, E. Papandrea, M. Busetto, L. Di Liberto, S. Decesari, A. Marinoni, P. Cristofanelli, C. Fratticioli, F. Cairo, M. Premuda, M. Valeri, Towards a new FRM4DOAS site in 	

the Po valley in the frame of Phase I and Phase II IDEAS-QA4EO Task 2, Sentinel-5p 5 Years Anniversary, Taormina, Italy, 10-14 October 2022.

- 7) Massimo Valeri, Stefano Casadio, Elisa Castelli, Bianca M. Dinelli, Enzo Papandrea, Paolo Pettinari, Giacomo Lorenzi, Bojan Bojkov, Results of the validation of the AIRWAVE-SLSTR TCWV product and follow-on study (oral), 7th Sentinel-3 Validation Team Meeting 2022, , ESA-ESRIN, Frascati (Rm), Italy, 18-20 October 2022.

Languages

English, fluent, Italian (mother tongue)

Bologna, 29/10/2024