

CV Date	29/01/2022
---------	------------

Part A. PERSONAL INFORMATION

First Name	Maria-Paz		
Family Name	Zorzano Mier		
Sex	Not Specified	Date of Birth	
ID number Social Security, Passport			
URL Web			
Email Address			
Open Researcher and Contributor ID (ORCID)	0000-0002-4492-9650		

A.1. Current position

Job Title	Funcionaria de carrera, Escala de Investigadores Científicos de los OPIS.		
Starting date	2021		
Institution	Instituto Nacional de Técnica Aeroespacial		
Department / Centre	/		
Country		Phone Number	
Keywords			

A.2. Previous positions (Research Career breaks included)

Period	Job Title / Name of Employer / Country
2001 - 2001	Project Manager / BULL ESPAÑA, S.A.
1999 - 2001	Postdoct / CERN (Genève, Switzerland)

A.3. Education

Degree/Master/PhD	University / Country	Year
European Doctorate. PhD in Physics	Universidad Complutense de Madrid	1999
Licenciado en Ciencias Físicas Especialidad Fundamental	Universidad Complutense de Madrid	1995

Part C. RELEVANT ACCOMPLISHMENTS

C.1. Most important publications in national or international peer-reviewed journals, books and conferences

AC: corresponding author. (n° x / n° y): position / total authors. If applicable, indicate the number of citations

- Scientific paper.** 2020. Gender Balance in Mars Exploration: Lessons Learned from the Mars Science Laboratory
- Scientific paper.** 2020. Atmospheric composition of exoplanets based on the thermal escape of gases and implications for habitability: Atmospheric composition of exoplanets
- Scientific paper.** 2020. The HABIT (HabitAbility: Brine Irradiation and Temperature) environmental instrument for the ExoMars 2022 Surface Platform
- Scientific paper.** 2019. Aeolian transport of viable microbial life across the Atacama Desert, Chile: Implications for Mars
- Scientific paper.** 2019. Discovery of recurring slope lineae candidates in Mawrth Vallis, Mars
- Scientific paper.** 2019. Pyrite-induced uv-photocatalytic abiotic nitrogen fixation: implications for early atmospheres and Life
- Scientific paper.** 2019. The COSPAR Panel on Planetary Protection Role, Structure and Activities

- 8 **Scientific paper.** 2019. Are Slope Streaks Indicative of Global-Scale Aqueous Processes on Contemporary Mars?
- 9 **Scientific paper.** 2019. The potential science and engineering value of samples delivered to Earth by Mars sample return
- 10 **Scientific paper.** Bhardwaj A.; Sam L.; Martín-Torres F.; Zorzano M.2019. Discovery of recurring slope lineae candidates in Mawrth Vallis, Mars Scientific Reports. 9. SCOPUS (2) <https://doi.org/10.1038/s41598-019-39599-z>
- 11 **Scientific paper.** Mompeán C.; Marín-Yaseli M.; Espigares P.; González-Toril E.; Zorzano M.; Ruiz-Bermejo M.2019. Prebiotic chemistry in neutral/reduced-alkaline gas-liquid interfaces Scientific Reports. 9. <https://doi.org/10.1038/s41598-018-36579-7>
- 12 **Scientific paper.** 2019. Seasonal Variations in Atmospheric Composition as Measured in Gale Crater, Mars
- 13 **Scientific paper.** Webster C.; Mahaffy P.; Atreya S.; et al; Vasavada A.2018. Background levels of methane in Mars' atmosphere show strong seasonal variations Science. 360, pp.1093-1096. ISSN 00368075. SCOPUS (36) <https://doi.org/10.1126/science.aag0131>
- 14 **Scientific paper.** Fonseca R.; Zorzano-Mier M.; Martín-Torres J.2018. Planetary boundary layer and circulation dynamics at Gale Crater, Mars Icarus. 302, pp.537-559. ISSN 00191035. SCOPUS (8) <https://doi.org/10.1016/j.icarus.2017.11.036>
- 15 **Scientific paper.** 2018. Planetary boundary layer and circulation dynamics at Gale Crater, Mars
- 16 **Scientific paper.** 2017. Himalayan glaciers experienced significant mass loss during later phases of little ice age
- 17 **Scientific paper.** 2017. The Vertical Dust Profile Over Gale Crater, Mars
- 18 **Scientific paper.** 2016. A full martian year of line-of-sight extinction within Gale Crater, Mars as acquired by the MSL Navcam through sol 900
- 19 **Scientific paper.** 2016. Aerosol optical depth as observed by the Mars Science Laboratory REMS UV photodiodes
- 20 **Scientific paper.** 2016. Habitability: A Review
- 21 **Scientific paper.** Stern J.; Sutter B.; Freissinet C.; et al; Thiemens M.2015. Evidence for indigenous nitrogen in sedimentary and aeolian deposits from the Curiosity rover investigations at Gale crater, Mars Proceedings of the National Academy of Sciences of the United States of America. 112, pp.4245-4250. ISSN 00278424. SCOPUS (63) <https://doi.org/10.1073/pnas.1420932112>
- 22 **Scientific paper.** 2015. Evidence for indigenous nitrogen in sedimentary and aeolian deposits from the Curiosity rover investigations at Gale crater, Mars
- 23 **Scientific paper.** 2015. Mars methane detection and variability at Gale crater
- 24 **Scientific paper.** Freissinet C.; Glavin D.; Mahaffy P.; et al; Zorzano M.2015. Organic molecules in the Sheepbed Mudstone, Gale Crater, Mars Journal of Geophysical Research: Planets. 120, pp.495-514. ISSN 21699097. SCOPUS (159) <https://doi.org/10.1002/2014JE004737>
- 25 **Scientific paper.** 2015. Organic molecules in the Sheepbed Mudstone, Gale Crater, Mars
- 26 **Scientific paper.** Javier Martín-Torres F.; Zorzano M.; Valentín-Serrano P.; et al; Vaniman D.2015. Transient liquid water and water activity at Gale crater on Mars Nature Geoscience. 8, pp.357-361. ISSN 17520894. SCOPUS (145) <https://doi.org/10.1038/ngeo2412>
- 27 **Scientific paper.** 2015. Transient liquid water and water activity at Gale crater on Mars
- 28 **Scientific paper.** 2013. Role of Ferrocyanides in the Prebiotic Synthesis of α -Amino Acids
- 29 **Scientific paper.** 2012. REMS: The environmental sensor suite for the Mars Science Laboratory rover
- 30 **Scientific paper.** 2010. The rover environmental monitoring station ground temperature sensor: A pyrometer for measuring ground temperature on mars
- 31 **Scientific paper.** 2009. Possible physical and thermodynamical evidence for liquid water at the Phoenix landing site
- 32 **Scientific paper.** Zorzano M.; Vázquez L.; Jimenez S.2009. Retrieval of ultraviolet spectral irradiance from filtered photodiode measurements Inverse Problems. 25. ISSN 02665611. SCOPUS (8) <https://doi.org/10.1088/0266-5611/25/11/115023>

- 33 **Scientific paper.** Zorzano M.; Mateo-Martí E.; Prieto-Ballesteros O.; Osuna S.; Renno N.2009. Stability of liquid saline water on present day Mars Geophysical Research Letters. 36. ISSN 00948276. SCOPUS (64) <https://doi.org/10.1029/2009GL040315>
- 34 **Scientific paper.** 2008. Asymmetric chiral growth of micron-size NaClO₃ crystals in water aerosols
- 35 **Scientific paper.** Zorzano M.; Córdoba-Jabonero C.2007. Influence of aerosol multiple scattering of ultraviolet radiation on martian atmospheric sensing Icarus. 190, pp.492-503. ISSN 00191035. SCOPUS (6) <https://doi.org/10.1016/j.icarus.2007.03.029>
- 36 **Scientific paper.** 2007. Spectral information retrieval from integrated broadband photodiode Martian ultraviolet measurements
- 37 **Scientific paper.** 2006. Consequences of imperfect mixing the Gray-Scott model
- 38 **Scientific paper.** 2006. Reaction-noise induced homochirality
- 39 **Scientific paper.** Zorzano M.; Vázquez L.2006. Remote temperature retrieval from heating or cooling targets Optics Letters. 31, pp.1420-1422. ISSN 01469592. SCOPUS (7) <https://doi.org/10.1364/OL.31.001420>
- 40 **Scientific paper.** 2005. Numerical integration of the discrete-ordinate radiative transfer equation in strongly non-homogeneous media
- 41 **Scientific paper.** 2005. Radiative habitable zones in martian polar environments
- 42 **Scientific paper.** 2005. Reaction-diffusion model for pattern formation in E. coli swarming colonies with slime
- 43 **Scientific paper.** 2005. Spatiotemporal patterns driven by autocatalytic internal reaction noise
- 44 **Scientific paper.** 2003. Emergence of synchronous oscillations in neural networks excited by noise
- 45 Clark, Joanna; Sutter, Brad; Archer, P. Douglas, Jr.; et al; Mahaffy, Paul. 2021. A Review of Sample Analysis at Mars-Evolved Gas Analysis Laboratory Analog Work Supporting the Presence of Perchlorates and Chlorates in Gale Crater, Mars MINERALS. 11. <https://doi.org/10.3390/min11050475>
- 46 Cordoba-Jabonero, Carmen; Sicard, Michael; Lopez-Cayueta, Maria-Angeles; Ansmann, Albert; Comeron, Adolfo; Zorzano, Maria-Paz; Rodriguez-Gomez, Alejandro; Munoz-Porcar, Constantino. 2021. Aerosol radiative impact during the summer 2019 heatwave produced partly by an inter-continental Saharan dust outbreak - Part 1: Short-wave dust direct radiative effect ATMOSPHERIC CHEMISTRY AND PHYSICS. 21. ISSN 1680-7316. WOS (2) <https://doi.org/10.5194/acp-21-6455-2021>
- 47 Martin-Torres, Javier; Zorzano-Mier, Maria-Paz; Nyberg, Erik; Vakkada-Ramachandran, Abhilash; Bhardwaj, Anshuman. 2021. Brine-Induced Tribocorrosion Accelerates Wear on Stainless Steel: Implications for Mars Exploration ADVANCES IN ASTRONOMY. 2021. ISSN 1687-7969. <https://doi.org/10.1155/2021/6441233>
- 48 Hallsworth, John E.; Koop, Thomas; Dallas, Tiffany D.; et al; McKay, Christopher P.2021. Water activity in Venus's uninhabitable clouds and other planetary atmospheres NATURE ASTRONOMY. 5. ISSN 2397-3366. WOS (9) <https://doi.org/10.1038/s41550-021-01391-3>

C.3. Research projects and contracts

- 1 **Project.** CAMELIA (The Cycle of Aerosols on Mars and Earth, a comparative study. Implications for Life and Planetary Protection). (Centro de Astrobiología). 01/06/2019-31/05/2023. 165.200 €.
- 2 **Project.** Planetary exploration: from the terrestrial analog sites to other planets, through the modeling and simulation in the laboratory, to the development of Solar system exploration instrumentation and remote detection of exoplanets. Spanish National Research Plan. MINECO. María de Maeztu Excellence Program. (CAB (INTA-CSIC)). 01/01/2018-31/12/2021. 2.000.000 €.

- 3 Project.** Investigation of transport of biomass and aerosols through the atmosphere in Mars analogues: implication for planetary protection during colonization and exploration.. CENTRO DE ACUSTICA APLICADA Y EVALUACION NO DESTRUCTIVA. (CAB (INTA-CSIC), collaboration and Dubai Future Foundation and LTU). 01/07/2018-31/12/2018. 13.902 €.
- 4 Contract.** QUIMERA: DEGRADACIÓN Y PROTECCIÓN DE MATERIALES EN EL ESPACIO: QUÍMICA E INGENIERÍA DE SUPERFICIES EN CONDICIONES EXTREMAS 01/09/2021-01/09/2024. 112.000 €.

C.4. Activities of technology / knowledge transfer and results exploitation

Susana Osuna Esteban; Maria-Paz Zorzano Mier; Cesar Menor Salvan; Marta Ruiz Bermejo; Sabino Ventinemillas Verdaguer. WO2008148912-A1 // EP08775431.3/20091227. EUROPEAN PATENT. METHOD FOR CRYSTALLISATION FROM A SOLUTION Spain. 04/06/2008. INTA/CSIC.