

CV Date

01/04/2025

Part A. PERSONAL INFORMATION

First Name			
Family Name			
Sex		Date of Birth	
ID number Social Security, Passport			
URL Web			
Email Address			
Open Researcher and Contributor ID (ORCID)			

A.1. Current position

Job Title	Catedrático de Universidad		
Starting date	2017		
Institution	Universidad de Oviedo		
Department / Centre	Explotación y Prospección de Minas / Escuela Universitaria de Ingeniería Técnica Minera		
Country		Phone Number	
Keywords			

A.3. Education

Degree/Master/PhD	University / Country	Year
Master en Gestión de la Innovación y el Desarrollo Empresarial	Universidad de Oviedo	2008
Programa Oficial de Doctorado en Minería, Obra Civil y Medio Ambiente y Dirección de Proyectos	Universidad de Oviedo	2003
Ingeniero Industrial Especialidad Electrotecnia	Universidad de Oviedo	1999
Ingeniero Tecnico Industrial Especialidad Electrónica Regulación y Automatismos	Universidad de León	1995

Part C. RELEVANT ACCOMPLISHMENTS

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

AC: corresponding author. (nº x / nº y): position / total authors. If applicable, indicate the number of citations

- Scientific paper.** CCarlos Gonzalez-Gutierrez; Nazim Ali Bharmal; Jorge Rodriguez-Muro; Alejandro Buendia-Roca; Huizhe Yang; Laurence W Fitzpatrick; Timothy J Morris; Francisco Javier de Cos Juez. 2024. LABORATORY DEMONSTRATION OF SINGLE-CAMERA PPPP WAVEFRONT SENSING USING NEURAL NETWORKS. INTERNATIONAL JOURNAL OF OPTOMECHATRONICS. TAYLOR & FRANCIS. 18-1, pp.2386985. ISSN 1559-9612.
- Scientific paper.** Julia Maria Fernandez Diaz; Susana Fernandez; Enrique Diez; et al; Francisco Javier de Cos Juez. 2024. LUNAR LITHIUM-7 SENSING ($\Delta 7LI$): SPECTRAL PATTERNS AND ARTIFICIAL INTELLIGENCE TECHNIQUES. SENSORS. MDPI. 24-12, pp.3931. ISSN 1424-8220.

- 3 **Scientific paper**. Susana Fernandez; Fernando Alberquilla; Julia Maria Fernandez Diaz; et al; Jesus Martinez Frias. 2024. LUNAR SURFACE RESOURCE EXPLORATION: TRACING LITHIUM, 7 LI AND BLACK ICE USING SPECTRAL LIBRARIES AND APOLLO MISSION SAMPLES. REMOTE SENSING. MDPI. 16-7, pp.1306. ISSN 2072-4292.
- 4 **Scientific paper**. Santiago Iglesias Alvarez; Enrique Diez Alonso; Maria Luisa Sanchez Rodriguez; Javier Rodriguez Rodriguez; Saul Perez Fernandez; Javier de Cos Juez. 2024. COMPUTING TRANSITING EXOPLANET PARAMETERS WITH 1D CONVOLUTIONAL NEURAL NETWORKS. AXIOMS. MDPI. 13-2, pp.83-98.
- 5 **Scientific paper**. Javier Rodriguez Rodriguez; Enrique Diaz Alonso; Santiago Iglesias Alvarez; et al; Javier de Cos Juez. 2024. IMPROVED MODELS FOR THE NEAR-EARTH ASTEROIDS (2100) RA-SHALOM,(3103) EGER,(12711) TUKMIT, AND (161989) CACUS. MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY. Oxford University Press. 527-3, pp.6814-6834.
- 6 **Scientific paper**. Sara R Cabo; Sergio Luis Suarez; Laura Bonavera; Maria Luisa Sanchez; Jesus Daniel Santos; Francisco Javier de Cos Juez. 2023. MAGNETIC SHIELDING SIMULATION FOR PARTICLE DETECTION. THE EUROPEAN PHYSICAL JOURNAL PLUS. SPRINGER. 138-10, pp.903. ISSN 2190-5444.
- 7 **Scientific paper**. Sergio Luis Suarez Gomez; Francisco Garcia Riesgo; Saul Perez Fernandez; Francisco Javier Iglesias Rodriguez; Enrique Diez Alonso; Jesus Daniel Santos Rodriguez; Javier de Cos Juez. 2023. WAVEFRONT RECOVERY FOR MULTIPLE SUN REGIONS IN SOLAR SCAO SCENARIOS WITH DEEP LEARNING TECHNIQUES. MATHEMATICS. MDPI. 11-7, pp.1561-1576.
- 8 **Scientific paper**. Santiago Iglesias Alvarez; Enrique Diez Alonso; Maria Luisa Sanchez Rodriguez; Javier Rodriguez Rodriguez; Fernando Sanchez Lasheras; Javier de Cos Juez. 2023. ONE-DIMENSIONAL CONVOLUTIONAL NEURAL NETWORKS FOR DETECTING TRANSITING EXOPLANETS. AXIOMS. MDPI. 12-4, pp.348-363.
- 9 **Scientific paper**. Jose Manuel Casas; Laura Bonavera; Joaquin Gonzalez-Nuevo Gonzalez; et al; Francisco Javier de Cos Juez. 2023. CONSTRAINING THE POLARISATION FLUX DENSITY AND ANGLE OF POINT SOURCES BY TRAINING A CONVOLUTIONAL NEURAL NETWORK. ASTRONOMY AND ASTROPHYSICS. EDP Science. 670, pp.A76. ISSN 0004-6361.
- 10 **Scientific paper**. Francisco Garcia Riesgo; Sergio Luis Suarez Gomez; Jesus Daniel Santos Rodriguez; et al; (10/10) Francisco Javier de Cos Juez. 2022. COMPARATIVE STUDY OF SHACK-HARTMANN CONFIGURATIONS FOR ATMOSPHERIC TURBULENCE RECONSTRUCTIONS IN SOLAR ADAPTIVE OPTICS. OPTICS AND LASERS IN ENGINEERING. Elsevier. 158, pp.107-157. ISSN 0143-8166.
- 11 **Scientific paper**. Jose Manuel Casas; Laura Bonavera; Joaquin Gonzalez-Nuevo Gonzalez; et al; Francisco Javier de Cos Juez. 2022. CENN: A FULLY CONVOLUTIONAL NEURAL NETWORK FOR CMB RECOVERY IN REALISTIC MICROWAVE SKY SIMULATIONS. ASTRONOMY & ASTROPHYSICS. EDP Science. 666, pp.A89. ISSN 0004-6361. <https://doi.org/10.1051/0004-6361/202243450>
- 12 **Scientific paper**. Jose Manuel Casas; Joaquin Gonzalez Nuevo; Laura Bonavera; et al; (9/9) Francisco Javier de Cos Juez. 2022. MULTI-FREQUENCY POINT SOURCE DETECTION WITH FULLY CONVOLUTIONAL NETWORKS: PERFORMANCE IN REALISTIC MICROWAVE SKY SIMULATIONS. ASTRONOMY & ASTROPHYSICS. EDP Sciences. 658-A110, pp.1-11. ISSN 0004-6361.
- 13 **Scientific paper**. Amadeo Castro Gonzalez; Enrique Diaz Alonso; Juan Menendez Blanco; et al; Francisco Javier de Cos Juez. 2021. THE K2-OJOS PROJECT: NEW AND REVISITED PLANETS AND CANDIDATES IN K2 CAMPAIGNS 5, 16, & 18. MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY. Oxford University Press. 509-1, pp.1075-1095. ISSN 0035-8711. <https://doi.org/10.1093/mnras/stab2669>

- 14 **Scientific paper.** Juan Enrique Sanchez Lasheras; Fernando Sanchez Lasheras; Carmen Gonzalez Donquiles; et al; (9/9) Francisco Javier de Cos Juez. 2021. HYBRID ALGORITHM FOR THE CLASSIFICATION OF PROSTATE CANCER PATIENTS OF THE MCC-SPAIN STUDY BASED ON SUPPORT VECTOR MACHINES AND GENETIC ALGORITHMS. NEUROCOMPUTING. ELSEVIER. 452, pp.386-394. ISSN 0925-2312. <https://doi.org/10.1016/j.neucom.2019.08.113>
- 15 **Scientific paper.** Esteban Jose; Jose Gonzalez Cava; Jose Luis Casteleiro Roca; et al; Jose Luis Calvo Rolle. 2021. HYBRID INTELLIGENT MODEL TO PREDICT THE REMIFENTANIL INFUSION RATE IN PATIENTS UNDER GENERAL ANESTHESIA. LOGIC JOURNAL OF THE IGPL. OXFORD UNIV PRESS. 29-2, pp.193-206. ISSN 1367-0751. <https://doi.org/10.1093/jigpal/jzaa046>
- 16 **Scientific paper.** Laura Bonavera; Sergio Luis Suarez Gomez; Joaquin Gonzalez Nuevo; Ruben Muñoz; (5/5) Francisco Javier de Cos Juez. 2021. POINT SOURCE DETECTION WITH FULLY CONVOLUTIONAL NETWORKS-PERFORMANCE IN REALISTIC MICROWAVE SKY SIMULATIONS. ASTRONOMY & ASTROPHYSICS. EDP Sciences. 648-1, pp.50-65. ISSN 0004-6361.
- 17 **Scientific paper.** Mark E Everett; NJ Scott; Steve B Howell; David R Ciardi; Erica J Gonzales; Joshua E Schlieder; Francisco Javier de Cos Juez. 2020. PLANETARY CANDIDATES TRANSITING COOL DWARF STARS FROM CAMPAIGNS 12 TO 15 OF K2. MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY. Oxford University Press. 499-4, pp.5416-5441. ISSN 0035-8711.
- 18 **Scientific paper.** Daniel Garcia Iglesias; Jose Manuel Rubin Lopez; Diego Perez Diez; Carlos Moriss de la Tasa; (5/6) Francisco Javier de Cos Juez; David Calvo Cuervo. 2020. COMPARISON OF WAVELET CONTINUOUS TRANSFORM AND SIGNAL AVERAGED ECG FOR HIGH FREQUENCY CONTENT AND LATE POTENTIAL DETECTION IN HEALTHY INDIVIDUALS. EUROPEAN HEART JOURNAL. OXFORD UNIV PRESS. 41-2, pp.3447-3457. ISSN 0195-668X.
- 19 **Scientific paper.** Fernando Sanchez Lasheras; Celestino Ordoñez; Javier Roca Pardiñas; (4/4) Francisco Javier de Cos Juez. 2020. REAL-TIME TOMOGRAPHIC RECONSTRUCTOR BASED ON CONVOLUTIONAL NEURAL NETWORKS FOR SOLAR OBSERVATION. MATHEMATICAL METHODS IN THE APPLIED SCIENCES. John Wiley & Sons Ltd. 43-14, pp.8032-8041. ISSN 0170-4214.
- 20 **Scientific paper.** Sergio Suarez; Laura Bonvaera; JOrge Carballido; Patricia Blanco; Francisco Blanco; Maria Luisa Sanchez; (7/7) Francisco Javier de Cos Juez. 2020. EFFECTIVE EXTRACTION OF HIGH PURITY SULFUR FROM INDUSTRIAL RESIDUE WITH LOW SULFUR CONTENT. JOURNAL OF MATERIALS RESEARCH AND TECHNOLOGY-JMR&T. ELSEVIER. 9-4, pp.8117-8124. ISSN 2238-7854. <https://doi.org/10.1016/j.jmrt.2020.05.007>
- 21 **Scientific paper.** Estevan Jove; Patricia Blanco Rodriguez; Jose Luis Casteleiro Roca; et al; Jose Luis Calvo Rolle; (10/12) Francisco Javier de Cos Juez. 2020. MISSING DATA IMPUTATION OVER ACADEMIC RECORDS OF ELECTRICAL ENGINEERING STUDENTS. LOGIC JOURNAL OF THE IGPL. Oxford University Press. 28-4, pp.487-501. ISSN 1367-0751.
- 22 **Scientific paper.** Fernando Sanchez Lasheras; Paulino Garcia Nieto; Esperanza Garcia Gonzalo; Laura Bonavera; (5/5) Francisco Javier de Cos Juez. 2020. EVOLUTION AND FORECASTING OF PM10 CONCENTRATION AT THE PORT OF GIJON (SPAIN). SCIENTIFIC REPORTS. NATURE RESEARCH. 10-1, pp.1-12. ISSN 2045-2322.
- 23 **Scientific paper.** Xuwen Liu; Tim Morris; Chris Saunter; (4/6) Francisco Javier de Cos Juez; Carlos Gonzalez Gutierrez; Lisa Bardou. 2020. WAVEFRONT PREDICTION USING ARTIFICIAL NEURAL NETWORKS FOR OPEN-LOOP ADAPTIVE OPTICS. MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY. Oxford University Press. 496-1. ISSN 0035-8711.

- 24 Scientific paper.** Juan Enrique Sanchez Lasheras; Carmen Gonzalez Donquiles; Paulino Jose Garcia Nieto; et al; (11/11) Francisco Javier de Cos Juez. 2020. A METHODOLOGY FOR DETECTING RELEVANT SINGLE NUCLEOTIDE POLYMORPHISM IN PROSTATE CANCER WITH MULTIVARIATE ADAPTIVE REGRESSION SPLINES AND BACKPROPAGATION ARTIFICIAL NEURAL NETWORKS. NEURAL COMPUTING & APPLICATIONS. SPRINGER LONDON LTD. 32-5, pp.1231-1238. ISSN 0941-0643.
- 25 Scientific paper.** Angel Alvarez Arenal; Elena Martin Fernandez; Hector de Llanos Lanchares; Mario Mauvezin; Maria Luisa Sanchez Rodriguez; (6/6) Francisco Javier de Cos Juez. 2020. AN ARTIFICIAL NEURAL NETWORK MODEL FOR THE PREDICTION OF BRUXISM BY MEANS OF OCCLUSAL VARIABLES. NEURAL COMPUTING & APPLICATIONS. SPRINGER LONDON LTD. 32-5, pp.1259-1267. ISSN 0941-0643.

C.3. Research projects and contracts

- 1 Project.** REDUCCION EFECTIVA DEL ERROR DE ANCHO DE BANDA BASADA EN TECNICAS PREDICTIVAS. Ministerio de Ciencia e Innovación. Francisco Javier de Cos Juez. (Universidad de Oviedo). 01/09/2022-31/08/2025. 184.646 €.
- 2 Project.** AYUDAS PARA GRUPOS DE INVESTIGACIÓN DE ORGANISMOS DEL PRINCIPADO DE ASTURIAS DURANTE EL PERIODO 2021-2023. Consejería de Ciencia del Principado de Asturias. Francisco Javier de Cos Juez. (Universidad de Oviedo). 01/01/2021-31/12/2023. 160.000 €.
- 3 Project.** RECOVERY: RECOVERY OF DEGRADED AND TRANSFORMED ECOSYSTEMS IN COAL MINING-AFFECTED AREAS. C.E.E.-Comunidad Economica Europea. Research Fund for Coal and Steel (RFCS).. Pedro Riesgo. (Universidad de Oviedo). 01/07/2019-30/06/2023. 258.360 €.
- 4 Project.** PARTICIPACIÓN ESPAÑOLA EN EL DISEÑO Y CONSTRUCCION DEL DETECTOR DE NEUTRINOS HYPERKAMIOKANDE. PLAN DE RECUPERACIÓN, TRANSFORMACIÓN Y RESILIENCIA (NEXT GENERATION EU). Francisco Javier (IP) de Cos. (Universidad de Oviedo). 01/01/2021-31/12/2022. 650.000 €.
- 5 Project.** DD-MET: ADVANCED METHANE DRAINAGE STRATEGY EMPLOYING UNDERGROUND DIRECTIONAL DRILLING TECHNOLOGY FOR MAJOR RISK PREVENTION AND GREENHOUSE GASES EMISSION MITIGATION. C.E.E.-Comunidad Economica Europea. Research Fund for Coal and Steel (RFCS). Ana Suarez Sanchez. (Universidad de Oviedo). 01/07/2019-31/12/2022. 116.100 €.
- 6 Project.** INTEGRATING HIGH RESOLUTION SOLAR PHYSICS (SOLARNET). CEE-Comunidad Económica Europea. H2020 Research Infrastructures of European Interest. Francisco Javier de Cos Juez. (Universidad de Oviedo). 01/01/2019-31/12/2022. 180.000 €.
- 7 Contract.** CARACTERIZACIÓN AVANZADA DE SUELOS Y CANTERAS FUNDACION BARREDO. Francisco Javier deCos Juez. 23/01/2024-23/01/2025. 35.000 €.
- 8 Contract.** CONVENIO ESPECÍFICO DE COLABORACIÓN PARA EL FOMENTO DE LA INVESTIGACIÓN DE RECURSOS MINEROS Y ENERGÉTICOS ESPACIALES HUNOSA - E.N. HULLERAS DEL NORTE, S.A.. (IP) Francisco Javier de Cos Juez. 26/04/2021-26/04/2025. 70.000 €.
- 9 Contract.** DISEÑO DE TELESCOPIOS DE ÚLTIMA GENERACIÓN ASTURFEITO SA. Francisco Javier (IP) de Cos Juez. 17/04/2021-17/10/2022. 30.000 €.
- 10 Contract.** DISEÑO CONCEPTUAL PARA ESTRUCTURA DE TELESCOPIO ROBOTICO ARQUIMEA CENTRO DE INVESTIGACIONES AVANZADAS, S.L.. Francisco Javier (IP) de Cos Juez. 24/11/2020-24/12/2020. 10.000 €.