Parte A. DATOS PERSONALES

Nombre y apellidos	Francisco Javier González Enrique		
Núm. identificación del investigador		Researcher ID	
		Código ORCID	https://orcid.org/0000-0002-5765-369X

A.1 Situación profesional actual

Organismo	Universidad de Cádiz		
Dpto./Centro	Ingeniería Informática		
Dirección			
Teléfono		Correo electrónico	javier.gonzalezenrique@uca.es
Espec. cód. UNESCO	120304; 120704; 120326; 120317		
Palabras clave	Soft Computing, Artificial Neural Networks, Support Vector Machines, Pattern Recognition, Atmospheric Pollution, Time Series, Logistic, Deep learning		

A.2 Formación académica

Título	Universidad	Año
Máster en Gestión Portuaria y Logística	Universidad de Cádiz	2014

Parte B. MÉRITOS MÁS RELEVANTES

B.1 Publicaciones (10 artículos JCR: 7 Q1, 1 Q2, 1 Q3 y 1 Q4)

González-Enrique, **J.**, Ruiz-Aguilar, J. J., Moscoso-López, J. A., Urda, D., Deka, L., & Turias, I. J. (2021). Artificial neural networks, sequence-to-sequence LSTMs, and exogenous variables as analytical tools for NO_2 (air pollution) forecasting. A case study in the Bay of Algeciras (Spain). *Sensors*, *21*(5). https://doi.org/10.3390/s21051770. **Impact Factor: 3.275 (Q1).**

González-Enrique, J., Ruiz-Aguilar, J. J., Moscoso-López, J. A., Urda, D., & Turias, I. J. (2021). A comparison of ranking filter methods applied to the estimation of NO_2 concentrations in the Bay of Algeciras (Spain). *Stochastic Environmental Research and Risk Assessment*. https://doi.org/https://doi.org/10.1007/s00477-021-01992-4. **Impact Factor: 2.351 (Q1).**

González-Enrique, J., Turias, I. J., Ruiz-Aguilar, J. J., Moscoso-López, J. A., & Franco, L. (2019). Spatial and meteorological relevance in NO_2 estimations. A case study in the Bay of Algeciras (Spain). *Stochastic Environmental Research and Risk Assessment*, *33*(3), 801–815. https://doi.org/https://doi.org/10.1007/s00477-018-01644-0. **Impact Factor: 2.351 (Q1).**

González-Enrique, J., Turias, I. J., Ruiz-Aguilar, J. J., Moscoso-López, J. A., Jerez-Aragonés, J., Franco, L., Gonzalez-Enrique, J., Turias, I. J., Ruiz-Aguilar, J. J., Moscoso-Lopez, J. A., Jerez-Aragones, J., & Franco, L. (2019). Estimation of NO_2 concentration values in a monitoring sensor network using a fusion approach. *Fresenius Environmental Bulletin*, *28*(2), 681–686. **Impact Factor: 0.691 (Q4).**

Moscoso-López, J. A., Urda, D., Ruiz-Aguilar, J. J., **González-Enrique, J.**, & Turias, I. J. (2020). A machine learning-based forecasting system of perishable cargo flow in maritime transport. *Neurocomputing*. https://doi.org/https://doi.org/10.1016/j.neucom.2019.10.121. **Impact Factor: 4.438 (Q1).**

Ruiz-Aguilar, J. J., Turias, I., **González-Enrique, J.**, Urda, D., & Elizondo, D. (2021). A permutation entropy-based EMD–ANN forecasting ensemble approach for wind speed prediction. *Neural Computing and Applications*, *33*(7), 2369–2391. https://doi.org/10.1007/s00521-020-05141-w. **Impact Factor: 4.774 (Q1).**

Ruiz-Aguilar, Juan Jesús, Moscoso-López, J. A., Urda, D., **González-Enrique, J.**, & Turias, I. (2020). A Clustering-Based Hybrid Support Vector Regression Model to Predict Container Volume at Seaport Sanitary Facilities. *Applied Sciences*, *10*(23). https://doi.org/10.3390/app10238326. **Impact Factor: 2.474 (Q2).**

Ruiz-Aguilar, Juan Jesús, Urda, D., Moscoso-López, J. A., **González-Enrique, J.**, & Turias, I. J. (2020). A freight inspection volume forecasting approach using an aggregation/disaggregation procedure, machine learning and ensemble models. *Neurocomputing*, *391*, 282–291. https://doi.org/10.1016/j.neucom.2019.06.109. **Impact Factor: 4.438 (Q1).**

Urda, D., Veredas, F. J., **González-Enrique, J.**, Ruiz-Aguilar, J. J., Jerez, J. M., & Turias, I. J. (2021). Deep neural networks architecture driven by problem-specific information. *Neural Computing and Applications*. https://doi.org/10.1007/s00521-021-05702-7. **Impact Factor: 4.774 (Q1).**

Van Roode, S., Ruiz-Aguilar, J. J., **González-Enrique, J.**, & Turias, I. J. (2019). An artificial neural network ensemble approach to generate air pollution maps. *Environmental Monitoring and Assessment*, *191*(12), 727. https://doi.org/10.1007/s10661-019-7901-6. **Impact Factor: 1.903 (Q3).**

B.2 Comunicaciones

Acosta Sánchez, L. E., **González-Enrique, J.**, Ruiz-Aguilar, J. J., Moscoso-López, J. A., & Turias, I. J. (2020). OD Mobility Estimation Using Artificial Neural Networks. In J. Monteiro, A. João Silva, A. Mortal, J. Aníbal, M. Moreira da Silva, M. Oliveira, & N. Sousa (Eds.), *INCREaSE 2019* (pp. 643–652). Springer International Publishing. https://doi.org/https://doi.org/10.1007/978-3-030-30938-1_49

González-Enrique, J., Ruiz-Aguilar, J. J., Moscoso-López, J. A., Van Roode, S., Urda, D., & Turias, I. J. (2019). A Genetic Algorithm and Neural Network Stacking Ensemble Approach to Improve NO_2 Level Estimations. In Igacio Rojas, G. Joya, & A. Catala (Eds.), *Advances in Computational Intelligence. IWANN 2019. Lecture Notes in Computer Science* (Vol. 11506, pp. 856–867). Springer, Cham. https://doi.org/https://doi.org/10.1007/978-3-030-20521-8_70

González-Enrique, J., Turias, I. J., Ruiz-Aguilar, J. J., Moscoso, J. A., Jiménez-Come, M. J., Jerez, J. M. & Franco, L. (2017, October). *Estimation of NO_2 concentration values in a monitoring sensor network using a fusion approach* [Paper presentation]. 19th International Symposium on Environmental Pollution and Its Impact on Life in the Mediterranean Region (MESAEP 2017), Rome, Italy

Moscoso-López, J. A., Turias, I. J., Ruiz-Aguilar, J. J., & **González-Enrique, F. J.** (2019). SVR-Ensemble forecasting approach for Ro-Ro Freight at Port of Algeciras (Spain). In M. Graña, J. M. López-Guede, O. Etxaniz, Á. Herrero, J. A. Sáez, H. Quintián, & E. Corchado (Eds.), *International Joint Conference SOCO'18-CISIS'18-ICEUTE'18. SOCO'18-CISIS'18-ICEUTE'18 2018. Advances in Intelligent Systems and Computing, vol 771* (pp. 357–366). Springer International Publishing. https://doi.org/https://doi.org/10.1007/978-3-319-94120-2_34

Moscoso-López, José Antonio, Ruiz-Aguilar, J. J., **González-Enrique, J.**, Urda, D., Mesa, H., & Turias, I. J. (2019). Ro-Ro Freight Prediction Using a Hybrid Approach Based on Empirical Mode Decomposition, Permutation Entropy and Artificial Neural Networks. In H. Pérez García, L. Sánchez González, M. Castejón Limas, H. Quintián Pardo, & E. Corchado Rodríguez (Eds.), *Hybrid Artificial Intelligent Systems. HAIS 2019. Lecture Notes in Computer Science, vol 11734* (pp. 563–574). Springer International Publishing.

Moscoso-López, José Antonio, Ruiz-Aguilar, J. J., Urda, D., **González-Enrique, J.**, & Turias, I. J. (2019). Ro-Ro Freight Forecasting Based on an ANN-SVR Hybrid Approach. Case of the Strait of Gibraltar. In Ignacio Rojas, G. Joya, & A. Catala (Eds.), *Advances in Computational Intelligence. IWANN 2019. Lecture Notes in Computer Science, vol 11506* (pp. 818–831). Springer International Publishing. https://doi.org/https://doi.org/10.1007/978-3-030-20521-8_67

Moscoso-López, José Antonio, Urda, D., **González-Enrique, J.**, Ruiz-Aguilar, J. J., & Turias, I. J. (2021). Hourly Air Quality Index (AQI) Forecasting Using Machine Learning Methods. In Á. Herrero, C. Cambra, D. Urda, J.

Sedano, H. Quintián, & E. Corchado (Eds.), *15th International Conference on Soft Computing Models in Industrial and Environmental Applications (SOCO 2020). Advances in Intelligent Systems and Computing* (Vol. 1268, pp. 123–132). Springer. https://doi.org/10.1007/978-3-030-57802-2_12

Moscoso-López, José Antonio. A., Turias, I. J., Ruiz-Aguilar, J. J., **González-Enrique, F. J.,** Van Roode, S. & Cerbán, M. (2018). *Modelling of perishable Ro-Ro freight transportation in the logistic node of the Strait of Gibraltar* [Paper presentation]. XIII Congreso de Ingeniería del Transporte (CIT 2018), Gijon, Spain.

Rodríguez, I., Van Roode, S., Moscoso, J. A., Ruiz-Aguilar, J. J., **González-Enrique, F. J.**, & Turias, I. J. (2020). Spatial and Meteorological Behaviour of Daily Ozone Air Pollution in the Bay of Algeciras (2010–2015). In J. Monteiro, A. João Silva, A. Mortal, J. Aníbal, M. Moreira da Silva, M. Oliveira, & N. Sousa (Eds.), *INCREaSE 2019* (pp. 42–55). Springer International Publishing. https://doi.org/10.1007/978-3-030-30938-1_4

Ruiz-Aguilar, J. J., Moscoso-López, J. A., Turias, I. J., & **González-Enrique, J.** (2017). Forecasting Freight Inspection Volume Using Bayesian Regularization Artificial Neural Networks: An Aggregation-Disaggregation Procedure. In C. E. Pérez García H., Alfonso-Cendón J., Sánchez González L., Quintián H. (Ed.), *International Joint Conference SOCO'17-CISIS'17-ICEUTE'17 León, Spain, September 6–8, 2017, Proceeding. SOCO 2017, ICEUTE 2017, CISIS 2017. Advances in Intelligent Systems and Computing, vol 649* (Vol. 649, Issue September 2017, pp. 179–187). Springer, Cham. https://doi.org/10.1007/978-3-319-67180-2_17

Ruiz-Aguilar, J. J., Urda, D., Moscoso-López, J. A., **González-Enrique, J.**, & Turias, I. J. (2020). Container Demand Forecasting at Border Posts of Ports: A Hybrid SARIMA-SOM-SVR Approach. In B. Dorronsoro, P. Ruiz, J. C. de la Torre, D. Urda, & E.-G. Talbi (Eds.), *Optimization and Learning. OLA 2020. Communications in Computer and Information Science, vol 1173* (pp. 69–81). Springer International Publishing. https://doi.org/https://doi.org/10.1007/978-3-030-41913-4_7

Urda Muñoz, D., Ruiz-Aguilar, J. J., **González-Enrique, J.**, & Turias Domínguez, I. J. (2019). A Deep Ensemble Neural Network Approach to Improve Predictions of Container Inspection Volume. In Ignacio Rojas, G. Joya, & A. Catala (Eds.), *Advances in Computational Intelligence. IWANN 2019. Lecture Notes in Computer Science, vol 11506* (pp. 806–817). Springer International Publishing. https://doi.org/https://doi.org/10.1007/978-3-030-20521-8_66

Van Roode, S., Ruiz-Aguilar, J. J., **González-Enrique, J.**, & Turias, I. J. (2020). A Hybrid Approach for Short-Term NO_2 Forecasting: Case Study of Bay of Algeciras (Spain). In F. Martínez Álvarez, A. Troncoso Lora, J. A. Sáez Muñoz, H. Quintián, & E. Corchado (Eds.), *Advances in Intelligent Systems and Computing* (Vol. 950, pp. 190–198). Springer International Publishing. https://doi.org/10.1007/978-3-030-20055-8_18

B.3 Participación en proyectos de I+D+i

Referencia: RTI2018-098160-B-I00.
Título: Deep learning air pollution forecasting.
Investigador Principal: Ignacio J. Turias Domínguez.
Convocatoria 2018 de proyectos I+D+I, Programa Estatal de Investigación, Desarrollo e Innovación Orientada a los Retos de la Sociedad.
Resolución: junio 2019.
Duración: 3 años.
Presupuesto total: 84.337€.

Referencia: TIN2014-58516-C2-2-R.
Título: Sistema de predicción de contaminantes atmosféricos usando sensores inteligentes. Aplicación práctica en la Bahía de Algeciras.
Investigador principal: Ignacio J. Turias Domínguez.
Entidad financiadora: MICINN. Proyectos I+D+I, Programa Estatal de Investigación, Desarrollo e Innovación Orientada a los Retos de la Sociedad. Convocatoria 2014.
Resolución provisional 16/04/2015.
Duración en años: 3.
Financiación recibida: 57.112 €.
Duración: 3 años.

B.4 Participación en contratos de I+D+i

Referencia del contrato: OT2017/053
Título: AUSINOX - Obtención de aceros inoxidables austeníticos con mínimo contenido inclusionario a partir del desarrollo de nuevos modelos de simulación avanzada en los procesos de acería.
Investigador principal: Ignacio J. Turias Domínguez.
Entidad financiadora: ACERINOX EUROPA, S.A.U. (proyecto CDTI).
Duración: 01/05/2016 - 31/12/2019.
Financiación recibida (en euros): 178.151,02 €.

Referencia del contrato: OT2017/051
Título: FERRINOP – Desarrollo experimental de nuevas soluciones tecnológicamente avanzadas para la fabricación de aceros inoxidables ferríticos optimizados.
Investigador principal: Pedro L. Galindo.
Entidad financiadora: ACERINOX EUROPA, S.A.U. (Proyecto CDTI).
Duración: 01/05/2016 - 31/12/2019. Financiación recibida (en euros): 154.162,25 €.

Referencia del contrato: OT2016/124.
Título: Estudio de soluciones al tráfico en el International School at Sotogrande.
Investigador principal: José Antonio Moscoso López.
Número de participantes: 4.