

# Federico Gutiérrez-Solana

## List of Publications by Year in descending order

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72  
papers

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citations

516215

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26  
g-index

72  
all docs

72  
docs citations

72  
times ranked

595  
citing authors

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 1  | Time optimization of the step loading technique in hydrogen embrittlement small punch tests. Theoretical and Applied Fracture Mechanics, 2022, 117, 103206.   | 2.1 | 4         |
| 2  | Application of machine learning algorithms for the optimization of the fabrication process of steel springs to improve their fatigue performance. International Journal of Fatigue, 2022, 159, 106785.                | 2.8 | 4         |
| 3  | Machine learning algorithms for the prediction of non-metallic inclusions in steel wires for tire reinforcement. Journal of Intelligent Manufacturing, 2021, 32, 1739-1751.   | 4.4 | 22        |
| 4  | Hydrogen embrittlement processes in microalloyed steel notched tensile samples. Theoretical and Applied Fracture Mechanics, 2021, 112, 102878.  | 2.1 | 8         |
| 5  | Machine Learning Methods for the Prediction of the Inclusion Content of Clean Steel Fabricated by Electric Arc Furnace and Rolling. Metals, 2021, 11, 914.  | 1.0 | 10        |
| 6  | Investigation through Artificial Neural Networks on the Influence of Shot Peening on the Hardness of ASTM TX304HB Stainless Steel. Journal of Testing and Evaluation, 2021, 49, 493-508.                              | 0.4 | 1         |
| 7  | The role of the testing rate on Small Punch tests for the estimation of fracture toughness in hydrogen embrittlement. Procedia Structural Integrity, 2020, 28, 188-199.   | 0.3 | 1         |
| 8  | Machine learning algorithms for the prediction of the strength of steel rods: an example of data-driven manufacturing in steelmaking. International Journal of Computer Integrated Manufacturing, 2020, 33, 880-894.  | 2.9 | 12        |
| 9  | Threshold stress estimation in hydrogen induced cracking by Small Punch tests based on the application of the incremental step loading technique. Theoretical and Applied Fracture Mechanics, 2020, 110, 102839.      | 2.1 | 3         |
| 10 | Optimization of the Fabrication of Cold Drawn Steel Wire Through Classification and Clustering Machine Learning Algorithms. IEEE Access, 2019, 7, 141689-141700.  | 2.6 | 6         |
| 11 | A Proposal for the Application of Failure Assessment Diagrams to Subcritical Hydrogen Induced Cracking Propagation Processes. Metals, 2019, 9, 670.   | 1.0 | 3         |
| 12 | Rate effects on the estimation of fracture toughness by small punch tests in hydrogen embrittlement. Journal of Strain Analysis for Engineering Design, 2019, 54, 390-400.  | 1.0 | 4         |
| 13 | Prediction of non-metallic inclusions in steel wires for tire reinforcement by means of machine learning algorithms. AIP Conference Proceedings, 2019, , .  | 0.3 | 0         |
| 14 | Transition Region of Nuclear Vessel Steels: Master Curve Approach Using Small Punch Notched Specimens. Key Engineering Materials, 2017, 734, 77-86.   | 0.4 | 4         |
| 15 | Development and experimental validation of a simplified Finite Element methodology to simulate the response of steel beams subjected to flame straightening. Construction and Building Materials, 2017, 137, 535-547. | 3.2 | 4         |
| 16 | Analysis of fatigue behaviour of notched specimens made of fibreglass reinforced polyamide by means of a cohesive model. Polymer Testing, 2017, 64, 337-344.  | 2.3 | 1         |
| 17 | Orientation of whole bone samples of small rodents matters during bending tests. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 65, 200-212.   | 1.5 | 1         |
| 18 | Using Small Punch tests in environment under static load for fracture toughness estimation in hydrogen embrittlement. IOP Conference Series: Materials Science and Engineering, 2017, 272, 012033.                    | 0.3 | 1         |

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|----|---|-----|-----------|
| 19 | Failure Analysis of High Strength Galvanized Bolts Used in Steel Towers. <i>Metals</i> , 2016, 6, 163.  | 1.0 | 18        |
| 20 | Fatigue behavior enhancement of short fiber glass reinforced polyamide by adding phase change materials. <i>Composites Part B: Engineering</i> , 2016, 93, 115-122.                                       | 5.9 | 8         |
| 21 | A micromechanical model of the cracking failure on structural steel components during hot-dip galvanizing. <i>Surface and Coatings Technology</i> , 2016, 286, 335-346.                                   | 2.2 | 5         |
| 22 | Influence of the Flame Straightening Process on Microstructural, Mechanical and Fracture Properties of S235 JR, S460 ML and S690 QL Structural Steels. <i>Experimental Mechanics</i> , 2013, 53, 893-909. | 1.1 | 22        |
| 23 | Analysing the Notch Effect Within the Ductile-to-Brittle Transition Zone of S275JR Steel. , 2013, , .   |     | 1         |
| 24 | Determination of the mechanical properties of normal and calcified human mitral chordae tendineae. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2012, 13, 1-13.                    | 1.5 | 22        |
| 25 | Fatigue damage analysis based on energy parameters in reinforced polyamide. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2012, 35, 683-691.                                      | 1.7 | 8         |
| 26 | Application of Small Punch Techniques for the Determination of Gold Mechanical Properties. <i>Strain</i> , 2011, 47, e484.  | 1.4 | 9         |
| 27 | Characterisation of the fracture properties in the ductile to brittle transition region of the weld material of a reactor pressure vessel. <i>Journal of Nuclear Materials</i> , 2011, 411, 25-40.        | 1.3 | 2         |
| 28 | Mechanical behavior of recycled reinforced polyamide railway fasteners. <i>Polymer Composites</i> , 2010, 31, 1142-1149.  | 2.3 | 4         |
| 29 | Stress corrosion cracking of structural steels immersed in hot-dip galvanizing baths. <i>Engineering Failure Analysis</i> , 2010, 17, 19-27.  | 1.8 | 16        |
| 30 | Structural integrity assessment of a nuclear vessel with FITNET FFS and Master Curve approach. <i>Engineering Failure Analysis</i> , 2010, 17, 259-269.   | 1.8 | 6         |
| 31 | Fracture characterisation of a nuclear vessel steel under dynamic conditions in the transition region. <i>Engineering Failure Analysis</i> , 2010, 17, 464-472.   | 1.8 | 4         |
| 32 | Analysis of dynamic conditions during thermal transient events for the structural assessment of a nuclear vessel. <i>Engineering Failure Analysis</i> , 2010, 17, 894-905.                                | 1.8 | 4         |
| 33 | Engineering approaches for the assessment of low constraint fracture conditions: A critical review. <i>Engineering Fracture Mechanics</i> , 2010, 77, 1360-1374.  | 2.0 | 36        |
| 34 | Fitness for service assessment of tubular structures using the FITNET FFS Procedure. , 2010, , 457-464.   |     | 0         |
| 35 | FITNET FFS procedure: A unified European procedure for structural integrity assessment. <i>Engineering Failure Analysis</i> , 2009, 16, 559-577.  | 1.8 | 34        |
| 36 | Obtaining the Jâ€“â€”a curves of an X-750 alloy from rising load test results and iso-a curves obtained by means of finite elements model. <i>Engineering Failure Analysis</i> , 2009, 16, 409-420.       | 1.8 | 2         |

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|----|--|-----|-----------|
| 37 | Structural integrity of an X-750 jet pump beam of a BWR by means of FITNET FFS procedure. Engineering Failure Analysis, 2009, 16, 2130-2139.   | 1.8 | 1         |
| 38 | Validation and application of the Master Curve and reconstitution techniques to a Spanish nuclear vessel. Engineering Fracture Mechanics, 2009, 76, 2495-2511.   | 2.0 | 10        |
| 39 | Environmental factors in failure during structural steel hot-dip galvanizing. Engineering Failure Analysis, 2009, 16, 585-595.   | 1.8 | 25        |
| 40 | Experimental analysis of differences in mechanical behaviour of cracked and notched specimens in a ferritic-pearlitic steel: Considerations about the notch effect on structural integrity. Engineering Failure Analysis, 2009, 16, 2450-2466. | 1.8 | 20        |
| 41 | The knowledge and its application: Materials Engineering and Structural Integrity. Brief review of the Spanish case and contributions from Prof. Elices. Engineering Failure Analysis, 2009, 16, 2705-2720.                                    | 1.8 | 3         |
| 42 | Design and validation of a device for tensile and toughness tests of specimens immersed in liquid zinc. Engineering Failure Analysis, 2008, 15, 229-236.   | 1.8 | 5         |
| 43 | Structural integrity assessment of components subjected to low constraint conditions. Engineering Fracture Mechanics, 2008, 75, 3038-3059.   | 2.0 | 47        |
| 44 | Analysis of key factors for the interpretation of small punch test results*. Fatigue and Fracture of Engineering Materials and Structures, 2008, 31, 841-849.  | 1.7 | 29        |
| 45 | Dynamic behaviour of railway fastening setting pads. Engineering Failure Analysis, 2007, 14, 364-373.  | 1.8 | 51        |
| 46 | Structural integrity assessment of different components of a power plant. Engineering Failure Analysis, 2007, 14, 301-309.   | 1.8 | 3         |
| 47 | Failure analysis of a hip implant by using the FITNET fitness for service procedure. Engineering Fracture Mechanics, 2007, 74, 688-702.  | 2.0 | 7         |
| 48 | The assessment of fatigue damage on short-fiber-glass reinforced polyamides (PA) through the surface roughness evolution. Polymer Composites, 2006, 27, 349-359.   | 2.3 | 10        |
| 49 | Effect of clamping force on the fatigue behaviour of punched plates subjected to axial loading. Engineering Failure Analysis, 2006, 13, 271-281.   | 1.8 | 33        |
| 50 | Fatigue failure of short glass fibre reinforced PA 6.6 structural pieces for railway track fasteners. Engineering Failure Analysis, 2006, 13, 182-197.   | 1.8 | 33        |
| 51 | On the structural integrity assessment of elastic-plastic redundant cracked structures. Engineering Fracture Mechanics, 2006, 73, 2710-2722.   | 2.0 | 1         |
| 52 | Environmental Effect on Pipeline Steels: A Fitness for Service Perspective. , 2006, , 611-612.   |     | 2         |
| 53 | Predicting Crack Arrest Behaviour of Structural Steels Using New Procedures. , 2006, , 431-432.  |     | 0         |
| 54 | Finite element simulation of fracture behaviour for aged duplex stainless steels. International Journal of Fracture, 2005, 134, 23-39.   | 1.1 | 2         |

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|----|--|-----|-----------|
| 55 | Absorption and diffusion of humidity in fiberglass-reinforced polyamide. <i>Polymer Composites</i> , 2005, 26, 580-586.  | 2.3 | 46        |
| 56 | A Gurson-Tvergaard based model to simulate the fracture of aged duplex stainless steels. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2004, 27, 1171-1182.  | 1.7 | 7         |
| 57 | Fatigue behaviour of punched structural plates. <i>Engineering Failure Analysis</i> , 2004, 11, 751-764.   | 1.8 | 30        |
| 58 | A finite element simulation methodology of the fatigue behaviour of punched and drilled plate components. <i>Engineering Failure Analysis</i> , 2004, 11, 737-750.   | 1.8 | 23        |
| 59 | Optimisation of heat treatment for improvement of IGSCC properties of an X-750 alloy. <i>Engineering Failure Analysis</i> , 2004, 11, 799-810.   | 1.8 | 12        |
| 60 | Correlation between impact resistance and fracture toughness in aged duplex stainless steels. <i>European Structural Integrity Society</i> , 2002, 30, 87-94.  | 0.1 | 10        |
| 61 | Predicting crack arrest behaviour of structural steels using small-scale material characterisation tests. <i>European Structural Integrity Society</i> , 2002, , 271-278.  | 0.1 | 3         |
| 62 | Analysis levels within the SINTAP defect assessment procedures. <i>Engineering Fracture Mechanics</i> , 2000, 67, 515-527.   | 2.0 | 16        |
| 63 | Implications of the yield stress/tensile stress ratio to the SINTAP failure assessment diagrams for homogeneous materials. <i>Engineering Fracture Mechanics</i> , 2000, 67, 547-562.  | 2.0 | 67        |
| 64 | An elastic-plastic fracture mechanics based methodology to characterize cracking behavior and its application to environmental assisted processes. <i>Nuclear Engineering and Design</i> , 1999, 188, 185-202.                                   | 0.8 | 15        |
| 65 | Influence of the specimen configuration and the insert material on fracture toughness characterisation with reconstituted specimens. <i>Nuclear Engineering and Design</i> , 1999, 188, 231-240.   | 0.8 | 3         |
| 66 | A method for the assessment of hyperstatic cracked structures in the elastic-plastic regime. <i>Engineering Fracture Mechanics</i> , 1998, 61, 519-535.  | 2.0 | 1         |
| 67 | An extension of the application of elastic-plastic assessment to cracked pipework systems. <i>Nuclear Engineering and Design</i> , 1998, 182, 141-147.   | 0.8 | 1         |
| 68 | Hydrogen Induced Cracking Processes in Structural Microalloyed Steels Characterization and Modelling. <i>Materials Science Forum</i> , 1998, 284-286, 303-310.   | 0.3 | 3         |
| 69 | THE INFLUENCE OF LOADING RATE ON HYDROGEN INDUCED CRACKING OF MICRO ALLOYED STEELS. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 1997, 20, 717-727.   | 1.7 | 3         |
| 70 | The effects of microstructure, strength level, and crack propagation mode on stress corrosion cracking behavior of 4135 steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1996, 27, 281-290. | 1.1 | 17        |
| 71 | A strain-based fracture model for stress corrosion cracking of low-alloy steels. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1996, 27, 291-304.   | 1.1 | 12        |
| 72 | Modelling the stress corrosion cracking of low alloy steels. <i>Corrosion Science</i> , 1993, 35, 499-505.   | 3.0 | 7         |