CURRICULUM VITAE JOSE L CURIEL-SOSA

PERSONAL DETAILS

Dr J.L. Curiel-Sosa, Department of Mechanical Engineering, University of Sheffield, Congress Street, Sheffield, S1 4ET
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1. ACADEMIC AND PROFESSIONAL POSITIONS

[14/01/2013–present] **Lecturer** of Aircraft Design and Aeroelasticity in the Department of Mechanical Engineering of the University of Sheffield. He is also the Director of Computer-Aided Aerospace & Mechanical Engineering research group and has been Admissions Tutor for Aerospace Engineering during 4 years within this period.

[18/01/2010–13/01/2013] **Senior Lecturer** in Mechanical and Aerospace Engineering at Sheffield Hallam University. He was appointed in the role of Course Leader of Teaching for the UG Mechanical Engineering degree since 2011.

[12/09/2007–30/12/2009] **Lecturer** in the Department of Applied Mathematics of the Universitat Politecnica de Catalunya/ Polytechnic University of Catalonia, Barcelona. He was member of the *Laboratori of Calcul Numeric*/Numerical Calculations Laboratory.

[20/08/2005–10/09/2007] **Research Assistant in Impact Engineering** at the Department of Engineering Science of the University of Oxford investigating techniques for predictive modelling of failure in aero-propulsion systems and software development in a project funded by Rolls-Royce through UTC Oxford.

[18/09/2003–01/06/2004] **Demonstrator** at the Fluid Mechanics Laboratory of the School of Engineering of the University of Swansea.

[2000-2001] **Composites Engineer** at Reyplas Ltd. The post involved budgeting, and composite structures design.

QUALIFICATIONS

Academic Qualifications:

- Accreditation **AQU**, *Agencia per a la Qualitat del Sistema Universitari de Catalunya;* official qualification of teaching and research for quality assurance in universities, Catalonia, Spain, 2008.

- **Doctor of Philosophy (PhD)** awarded by the University of Swansea in December 2006 with the title "*Computational Modelling of Critical Points and Structural Discontinuities*" under the supervision of Prof DRJ Owen and Prof EA Souza Neto.

- **Doctorate** homologation awarded by the Polytechnic University of Catalonia UPC, Spain, in 2008 reviewed by Prof Eugenio Onate and Prof Antonio Huerta. This was required as validation of my PhD for teaching accreditation in Spanish universities.

- **Master of Research (MRes)** in "*Finite Element Analyses and Computer Modelling in Mechanical Engineering*" (80%) awarded by the University of Swansea in 2003.
- Undergraduate 6-years university degree of *Ingeniero Industrial (Ing Ind),* MEng equivalent, awarded by the *Escuela Superior de Ingenieros* of the University of Seville, Spain, 2000.

Professional Qualifications:

- European Chartered Engineer **(Eur Ing)** awarded by the FEANI (Fédération Européenne d'Associations Nationales d'Ingénieurs / European Federation of National Engineering Associations), 2010.
- Chartered Engineer **(CEng)** by UK Engineering Council, 2012.
- Chartered Superior Engineer by the *Colegio Oficial de Ingenieros Superiores Industriales de Andalucía Occidental* (Spain), 2003.

AWARDS / HONNOURS / NOMINATIONS

- Nominated to the TUOS Senate Award for "Sustained Excellence" in 2017.

- Nominated by students to the "*Outstanding Teaching*" *Students' Union Academic Award 2017.*

- Nominated by students to the "*Best Academic Mentor*" *Students' Union Academic Awards 2017.*

- **Swansea University Scholarship** for PhD studies in the Civil and Computational Engineering Centre (C^2EC) of the School of Engineering (2002-2005)

- Runner-up **Ernest Hinton Prize** in Computational Mechanics, Swansea University, 2002.

- Swansea University Bursary for MRes in Computer Modelling in Mechanical Engineering and Finite Element Analyses studies (2001-2002).

- Nomination-by-students to the 2011 SHU Inspirational Teacher Award.

- Supervisor of doctoral studies on active flow control by Razvan Apetrei, first prize at *Engineering Researchers Forum* of the University of Sheffield in 2017.

MEMBERSHIP OF LEARNED SOCIETIES

2017	Full member of the EPSRC College of Reviewers, June.	EPSRC
2012	Member of the Institution of Mechanical Engineers (IMechE) UK.	MIMechE
2004	Association of Computational Mechanics in Engineering, UK– ACME	Affiliate
2004	International Association for Computational Mechanics - IACM-	Affiliate
2004	European Community on Computational Methods in Applied Sciences (ECCOMAS)	Affiliate

2 TEACHING

2.1 CURRENT UNDERGRADUATE AND POST GRADUATE TEACHING

Course Title	Level of Teaching	Contact Hours	No. stud.
AER380 Aircraft Design	3rd year BEng/MEng Aerospace Engineering	30	148
MEC413 Aircraft Aeroelasticity and Loads	4th year MEng Aerospace Engineering and MEng Mechanical Engineering	24	95
MEC6413 Aircraft Aeroelasticity and Loads	MSc in Aerodynamics and Aerostructures and MSc in Advanced Mechanical Engineering	24	20

2.2 PREVIOUS UNDERGRADUATE AND POSTGRADUATE TEACHING

	MODULE	DEGREE	UNIVERSITY	LEVEL	YEARS	No. student.
1	Numerical Methods 2	MEng Civil Engineering	University of Catalonia (UPC)	4th year	2007-2009	126
2	Computer Modelling	MSc Computational Mechanics	University of Catalonia (UPC) & CIMNE	MSc	2007-2009	30
3	Numerical Methods	BSc Mathematics	University of Catalonia, Barcelona	5th year	2008-2009	10
4	Numerical Methods for Engineers	BEng Aerospace Engineering	University of Catalonia, Barcelona	4th year	2008-2009	40
5	Mechanical Engineering 2	MEng Mechanical Engineering	Sheffield Hallam University	2nd year	2010-2012	80
6	Structural Component Integrity	BEng Mechanical Engineering	Sheffield Hallam University	3rd year	2010-2013	150
7	Engineering Dynamics & Structural Integrity	BEng Mechanical Engineering	Sheffield Hallam University	3rd year	2010-2012	150
8	Mechanical Technology 2	BEng Automotive & Forensic Eng.	Sheffield Hallam University	2nd year	2010-2011	80
9	Finite Element Analysis	BEng Mechanical Engineering	Sheffield Hallam University	3rd year	2010-2013	100
10	Computer Aided Engineering	BEng Automotive & Materials	Sheffield Hallam University	3rd year	2010-2013	20
11	Aerospace Structures	BEng/MEng Aerospace Engineering	Sheffield Hallam University	2nd year	2011-2013	70

12	Industrial Applications of Finite Element Method	MSc Advanced Engineering	Sheffield Hallam University	MSc	2010-2012	75
13	Aircraft Design	BEng/MEng Aerospace Engineering	University of Sheffield	3rd year	2013-present	150
14	Aircraft Aeroelasticity and Loads	MEng/MSc	University of Sheffield	4th year	2014-present	~90

2.3 TEACHING INNOVATION AND DEVELOPMENT

- Participation in the creation of the Aerospace Engineering degree at Sheffield Hallam University (2011).
- Creation of new modules including syllabus and teaching materials:
  - "*Industrial Applications of the Finite Element Method*", a MEng/MSc 4th year module in Mechanical Engineering and Aerospace Engineering courses at Sheffield Hallam University (2010).
  - "*Aerospace Structures*", a BEng/MEng 2nd year module in Aerospace Engineering courses at Sheffield Hallam University (2011).
  - "*Computer Modelling*", an MSc module for the Erasmus Mundus Master in Computational Mechanics course at Polytechnic University of Catalonia, Spain (2007).
- Substantial modification of the syllabus and creation of teaching materials (lecture notes, presentations, tutorials, cases of study, etc.):
  - "*Aircraft Design*", a MEng/BEng 3rd year module in Aerospace Engineering courses University of Sheffield (2013-).
  - *"Aircraft Aeroelasticity and Loads*", a MEng/MSc 4th year module in Aerospace Engineering and Mechanical Engineering courses at the University of Sheffield (2014-).

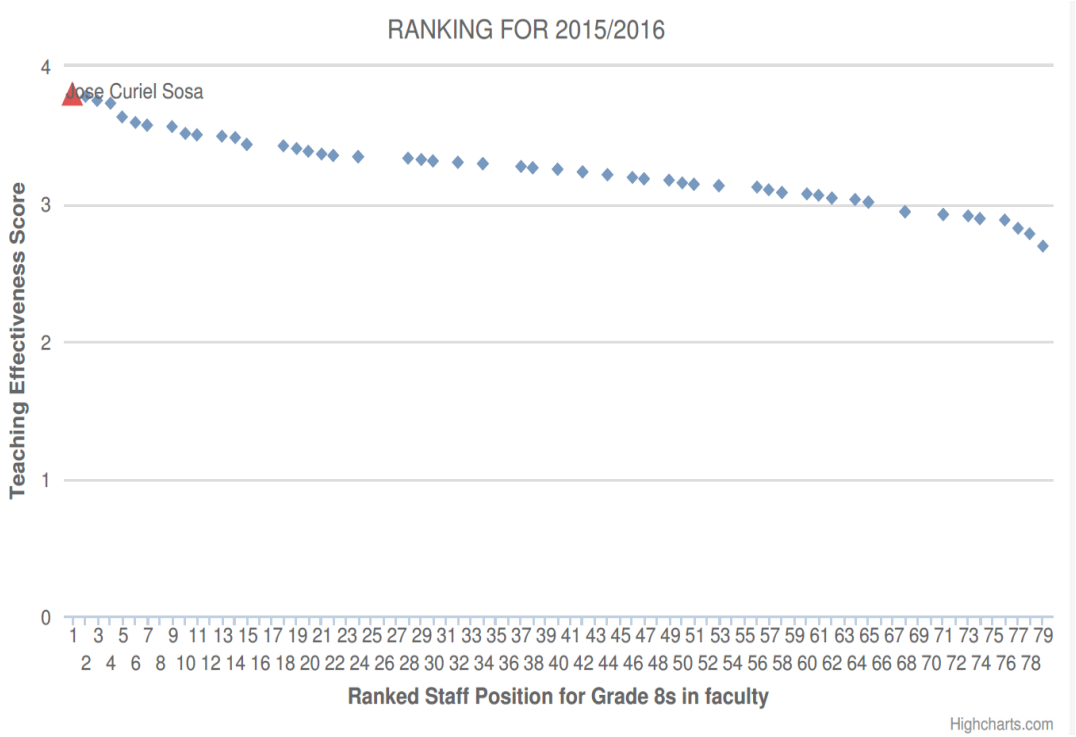

Figure showing the ranking for *Teaching Effectiveness Score* provided by University of Sheffield students

3 LEADERSHIP, MANAGEMENT AND ADMINISTRATION

3.1 CURRENT ACTIVITIES

- Director of CA^{2}M research group (07/2015-present)
- PGR Admissions Tutor (06/2017-present)

3.2 PREVIOUS ADMINISTRATIVE ACTIVITIES

- Course Leader of UG Mechanical Engineering teaching (SHU, 2010-13)
- Member of MEC teaching committee (01/2015-06/2016)
- Year 1 Tutor in Civil Engineering UPC, Barcelona (2007-09)
- Year 3 Tutor in Mechanical Engineering SHU Year 3 (2011-13)
- Aerospace representative in the Departmental Teaching Committee (2014-16)
- Member of the Aerospace Board of Studies (07/2013-08/2017)
- Aerospace Engineering Admissions Tutor (07/2013-08/2017)

4 PROFESSIONAL AND EXTERNAL STANDING

Dr Curiel-Sosa is recognised nationally and worldwide for his research and roles within the academic community. Evidence of this is a number of invited talks, symposium/conference organising, chairmanship and invitations to act as external PhD examiner. Additionally, he acts as a grant reviewer for the research councils in Engineering of UK, Poland and Croatia. These are provided below in some detail. He recently has been appointed as full member of the EPSRC College of Reviewers.

4.1. Invited seminars, chairmanships and international lectures of standing

- Organiser of the mini-symposium "*Advances In Computational Mechanics For Modelling Failure Of Composites*", 6th European Conference on Computational Mechanics (Solids, Structures and Coupled Problems (ECCM 6), Glasgow, UK, June 2018.

- Organiser of the mini-symposium "*Advances in Computational Failure of Composites*", US Engineering Mechanics Institute Conference (EMI 2017), San Diego, US, June 2017.

- Chairman of the *Computational Mechanics* session 2A of the 7th International Conference on Mechanics and Materials in Design (M2D2017), Albufeira, Portugal, June 2017.

- Invited seminar *"Extended Finite Element Method: Strategies for Delamination and Fracture"* at the University of Warwick, January 2017.

- Keynote lecture "*Damage and Failure in Composites*" at the 11th World Congress in Computational Mechanics (WCCM), Barcelona, July 2014.

- Co-Chair N8 High Performance Computing Network Event on *"Multiscale Computational Mechanics"*, N8HPC, October 2015.

- Chairman and organiser of minisymposium at the 5th European Conference in Computational Mechanics (ECCM V), Barcelona, July 2014.

- Invited seminar *"Damage Modelling in Composite Laminates"*, Zienkiewicz Centre for Computational Engineering, Swansea University, June 2014.

- Invited seminar *"Computational Techniques for Damage/Failure in Composites"*, Computational Mechanics and Design, Department of Civil Engineering of the University of Sheffield, March 2014.

- Invited seminar *"Computational Techniques for Damage/Failure in Composites"*, Insigneo, University of Sheffield, March 2014.

- Invited lecture on "*Composite Structures*" at Sheffield Hallam University in March 2013.

- Invited seminar *"Computational Techniques for Modelling Damage/Failure in Composites"* at the Materials and Engineering Research Institute (MERI) of Sheffield Hallam University, November 2012.

- Keynote lecture at the 9th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS), Vienna, Austria, September 2012.

- Chairman and organiser of the minisymposium "*Simulation of damage on laminates*" at the 9th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS), Vienna, Austria, September 2012.

-Invited seminar *"Computational Techniques for Damage Modelling in Composites"* at the Department of Aeronautics of the Imperial College of London, June 2012.

- Invited seminar *"Switching Implicit-Explicit Algorithm for Nonlinear Mechanics Analyses"* at the Laboratori of Calcul Numeric, Barcelona, June 2007.

- Co-author in **Plenary Lecture** by N Petrinic and JL Curiel-Sosa *"On competing volumetric and deviatoric damage mechanisms in simulation of ductile fracture in Ti64 alloy at high rates of strains"*. 10th European Mechanics of Materials Conference, Multi-phases and multi-components material. Kazimierz Dolny, Poland, June 2007.

4.2. PhD external examiner:

- [05/2014] Dr Patricia Coronado Saez with the thesis title "*Influencia del tipo de matriz y de la temperatura en el fenómeno de deslaminación a fractura, en materiales compuestos, sometidos a solicitación estática y dinámica en modo I"* awarded by the University of Oviedo, Spain.

- [05/2015] Dr Sutham Arun with the thesis title "*Finite Element Modelling of Fracture & Damage in Austenitic Stainless Steel in Nuclear Power Plant*" awarded by the School of Mechanical, Aerospace and Civil Engineering of the University of Manchester.

- [05/2016] Dr Juan Luis Martinez Vicente with the thesis title "*Estados de tensión y de deformación en materiales compuestos reforzados con fibra ante diferentes casos de carga*" awarded by the School of Industrial Engineers of the University of Castilla la Mancha, Ciudad Real, Spain.

- [02/2017] Dr Khairul Manami Kamarudin with the thesis title "*Modelling the Conceptual Design Process with Hybridisation TRIZ Methodology and Systematic Design Approach*" jointly awarded by the University of Putra Malaysia.

4.3. Institution of Mechanical Engineers (IMechE) :

i. CEng panel member (2013-2016)
ii. Career Learning Assessor (2013-2016)

4.4. Referee for international journals:

He acts regularly as a referee for a number of journals in the fields of composite structures, aerospace and computational methods. Amongst them:

Composite Structures, International Journal of Damage Mechanics, Finite Elements in Analysis and Design, Composite Science and Technology, Engineering Fracture Mechanics, Computational Materials Science and, Engineering Failure Analysis.

4.5. Visiting Researchers/Scholars:

Dr Curiel-Sosa's research has attracted a number of visits for collaboration:

[01/2017-01/2018] **Dr Chao Zhang**, researching on *"Computational multiscale techniques for modelling fatigue on composites"*, Jiangsu University, Zhenjiang, China.

[09/2016-10/2016] **Dr Juan Luis Martinez Vicente,** researching on *"XFEM applied to composite structures",* Ass. Prof. at University of Castilla La Mancha (UCLM), Ciudad Real, Spain.

[09/2014-10/2014] **Dr Maria del Carmen Serna Moreno**, researching on *"Computational modelling of chopped glass fibre composite cruciform subjected to biaxial loading using XFEM" ,* Ass. Prof. at University of Castilla La Mancha (UCLM), Ciudad Real, Spain.

5 RESEARCH & PUBLICATIONS

5.1 RESEARCH AREAS

Dr Curiel-Sosa leads the Computer-Aided Aerospace and Mechanical Engineering -CA^{2}M- which is a research group based at the Department of Mechanical Engineering of the University of Sheffield. His aim is to develop novel research for enhanced predictive computational tools and to find solutions to engineering problems by means of advanced computer methods that can serve the industrial practice. The group investigate within a wide range of topics including:

- Advanced computational analyses of nonlinear structures (composites, FGM, piezoelectric, elastic-plastic...).
- Innovative aerospace designs and systems through the advancement of numerical tools.
- Enhancement of structural integrity analyses through the development of tailored computational techniques.
- Failure assessment and prediction of damage (fracture, fatigue, ...)
- Damage prediction in machining of composites.
- Contribution to the advancement of methodologies for Aeroelasticity (flutter, divergence, control reversal, unsteady aerodynamics).

All above is conducted by tailoring novel computational tools (XFEM, XIGA, DEM...) for enhanced reliability and accurateness. Although the origin of CA^2M is within the aerospace and mechanical engineering theme, problems in other engineering branches such as civil are also undertaken.

5.2 RESEARCH FUNDING

[2017-2020] **Co-investigator** in PhD -partial- award funded by Airbus, Filton.
Title: Performance optimisation for future passenger aircraft coupling aerodynamics with aerostructures based on the adjoin approach.
Total budget: £15k.

[2016-2020] **Principal investigator** in PhD award funded by AMRC with Boeing
Title: Predicting delamination damage in the machining of Carbon Fibre Reinforced Polymer (CFRP) composites
Total estimated budget: £88k.

[2013-2016] **Principal investigator** in PhD award funded by Department of Mechanical Engineering of the University of Sheffield.
Title: Development of numerical methods for lifetime prediction of aerostructures.
Total estimated budget: £36k.

[2013-2016] **Principal investigator** in PhD award funded by Department of Mechanical Engineering of the University of Sheffield.
Title: Investigation of mixed-mode progressive damage in aero-composites by using eXtended Finite Element Methods (XFEM).
Total estimated budget: £51k.

[2010-2011] **Principal investigator** in industrial contract with ELEBkTRo project.
Title: Optimisation of the design of a new railway catenaries product
Total budget: £3k.

[2007-2008] **Principal investigator** in Rolls-Royce research project
Title: Predicting the failure load and failure mechanisms associated with a composite root specimen under quasi-static loading.
Total budget: £3.5k.

[2009-2010] **Principal investigator** in Research Mobility Grant awarded by UPC, Spain.
Title: Computational Damage Mechanics of Composites.
Total budget: €3,143.

[2007-2010] **Co-investigator** in Spanish Ministry of Education & Science grant.
Title: Evaluation of upper and lower bounds of the plastic limit state of frame structures using mathematical programming.
Total budget: €185,130.

[2007-2009] **Co-investigator** in industrial contract with Fundicion Ductil-Benito Ltd.
Title: Computer FE structural analysis of urban design concepts subjected to extreme impact loading.

Total budget: €100k.

5.3 RESEARCH DEGREE SUPERVISION

[2017-present] **Mr Hongqiang Hu**, PhD (1st supervisor), "*Computational Mechanics of Additive Manufacturing*".

[2017-present] **Mr Anthony Stannard**, PhD (2nd supervisor), "*Performance optimisation for future passenger aircraft coupling aerodynamics with aerostructures based on the adjoin approach*".

[2016-present] **Mr Razvan Apetrei**, PhD (1st supervisor), "*Active Flow and Load Control of Transonic Buffet on the next Generation Aircraft*".

[2016-present] **Mr Fernando Cepero**, PhD (1st supervisor), "*Predicting Delamination Damage in the Machining of CFRP composites*.

[2016-present] **Mr Mohammad Hasan**, PhD (1st supervisor), "*Aircraft Design - Computing Evaluation of a Novel Concept*".

[2015-present] **Mr Mahesa Akbar**, PhD (1st supervisor), "*Conceptual Design of Jet Transport Aircraft with Harvesting Energy Structure*".

[2015-present] **Mr Nur Azam bin Abdullah**, PhD (1st supervisor), "*Numerical Modeling of Passive Aeroelasticity on Self-Healing Composite Light Aircraft*".

[2015-present] **Mr Meor Iqram Meor Ahmad**, PhD (1st supervisor), "*Structural Integrity Including Creep on Mechanical Components in Aerospace Applications*".

[2014-present] **Mr Ahmed Al-Saadi**, PhD (2nd supervisor), "*Self-sensing and self-healing composite laminates".*

[2014-present] **Ms Idayat Salako**, PhD (2nd supervisor), "*Development of meshfree simulation methods for real-time surgical simulation*".

Completed PhD's:

[11/2013-11/2017] **Dr Behrooz Tafazzolimoghaddam**, PhD (1st supervisor), "Computational Mechanics of *Fracture and Fatigue on Composite Laminates by means of XFEM and CZM*".

[06/2013-02/2017] **Dr Joaquin Navarro-Zafra**, PhD (1st supervisor), "*Computational mechanics of fracture in advanced composite materials*".

5.4 **PUBLICATIONS** (*h-index*$_{\text{SCOPUS}}$: 7) (170+ citations)

Total number of publications: 50+

Refereed Journal Papers

[1] **Curiel-Sosa, JL**, Tafazzolimoghaddam & B, Zhang, C (2018). Modelling fracture and delamination in composite laminates: energy release rate and interface stress. Composite Structures (in-press)

[2] Abdullah NA, **Curiel-Sosa JL** & Akbar M (2018) Aeroelastic assessment of cracked composite plate by means of fully coupled finite element and Doublet Lattice Method. Composite Structures (in press).

[3] M Akbar & **JL Curiel-Sosa**. Evaluation of piezoelectric energy harvester under dynamic bending by means of hybrid mathematical/isogeometric analysis. Int J of Mechanics and Materials in Design, (in-press).

[4] Ahmad MIM, **Curiel-Sosa JL** & Rongong J (2017) Characterisation of creep behaviour using the power law model in copper alloy. Journal of Mechanical Engineering and Sciences, 11(1), 2503-2510.

[5] NA Abdullah, **JL Curiel-Sosa**, ZA Taylor, JL Martinez Vicente, C Zhang. Transversal crack and delamination of laminates using XFEM, Composite Structures, 173 (2017) 78-85.

[6] Lai W, Yu T, Bui TQ, Wang Z, **JL Curiel-Sosa**, Das R & Hirose S. 3-D Elasto-plastic large deformations: IGA simulation by Bézier extraction of NURBS. Advances in Engineering Software, 108 (2017), 68–82.

[7] C Zhang, **JL Curiel-Sosa** and Enock A Duodu. Finite element analysis of the damage mechanism of 3D braided composites under high-velocity impact. J Mater Sci, 52(8) (2017), 4658–4674. (J)

[8] C Zhang, **JL Curiel-Sosa**, TQ Bui. A novel interface constitutive model for prediction of stiffness and strength in 3D braided composites. Composite Structures, 163 (2017), 32-43. (J)

[9] Wang, Yu, TQ Bui, Tanaka, Doan, Zhang, Hirose, **JL Curiel-Sosa** (2017). 3-D local mesh refinement XFEM with variable-node hexahedron elements for extraction of stress intensity factors of straight and curved planar cracks. Computer Methods in Applied Mechanics and Engineering, 313 (1): 375-405.(J)

[10] C Zhang, **JL Curiel-Sosa**, TQ Bui (2017). Comparison of periodic and free mesh on the mechanical properties prediction of 3D braided composites. Composite Structures, 159 (1): 667-676.(J)

[11] Akbar M & **JL Curiel-Sosa** (2016). Piezoelectric energy harvester composite under dynamic bending with implementation to aircraft wingbox structure. *Composite Structures*, 153, 193-203.(J)

[12] **JL Curiel-Sosa** & Molina AJC (2016). A Large Strains Finite Element Multiscale Approach. *International Journal of Computational Methods in Engineering Science and Mechanics*, 17(1), 46-58. (J)

[13] Navarro-Zafra, J, **JL Curiel-Sosa**, Serna Moreno, MC (2016). Three-dimensional static and dynamic analysis of a composite cruciform structure subjected to biaxial loading: a discontinuum approach. *Applied Composite Materials.* 23 (2): 139-154. (J)

[14] **JL Curiel-Sosa**, Ibbett, J, Tafazzolimoghaddam, B, Hernandez Delgadillo, H (2015). What triggers a microcrack on parts obtained by selective laser sintering? *Materials & Design*, (P)

[15] Navarro-Zafra, J, **JL Curiel-Sosa**, Serna Moreno, MC (2015). Mixed-mode damage into a CGRP cruciform subjected to biaxial loading. *Composite Structures* 133, 1093-1100 (J)

[16] **JL Curiel-Sosa** (2015) Book Review of 'Introduction to Aeronautics: a Design perspective'. Aeronautical Journal, November, 2015 (P)

[17] Tafazzolimoghaddam B, **JL Curiel-Sosa** (2015). On the calculation of energy release rates in composite laminates by Finite Elements, Boundary Elements and Analytical Methods. Composites: Mechanics, Computation and Applications, 6(3): 219-237 (J)

[18] Serna Moreno MC, **JL Curiel-Sosa**, Navarro-Zafra J, Martinez Vicente JL & Lopez Cela JJ (2015) Crack propagation in a chopped glass-reinforced composite under biaxial testing by means of XFEM. Composite Structures, 119, 264-271.(J)

[19] **JL Curiel-Sosa** & Molina AJC (2015) A multiscale finite element technique for nonlinear multi-phase materials. Finite Elements in Analysis and Design, 94, 64-80.(P)

[20] Tripathi D, Bég OA & **JL Curiel-Sosa** (2014) Homotopy semi-numerical simulation of peristaltic flow of generalised Oldroyd-B fluids with slip effects. Computer Methods in Biomechanics and Biomedical Engineering, 17(4), 433-442.(J)

[21] Beg OA, Mahabaleshwar US, Rashidi MM, Rahimzadeh N, **JL Curiel-Sosa**, Sarris I & Laraqi N (2014) Homotopy analysis of magnetohydrodynamic convection flow in manufacture of a viscoelastic fabric for space applications. International Journal for Applied Mathematics and Mechanics, 10, 9-49.(J)

[22] **JL Curiel-Sosa**, Phaneendra S & Munoz JJ (2013) Modelling of mixed damage on fibre reinforced composite laminates subjected to low velocity impact. International Journal of Damage Mechanics, 22(3), 356-374.(P)

[23] **JL Curiel-Sosa**, Beg OA & Murillo JML (2013) Finite element analysis of structural instability using an implicit/explicit switching technique. International Journal of Computational Methods in Engineering Science and Mechanics, 14(5), 452-464.(P)

[24] **JL Curiel-Sosa** & Owen DRJ (2013) Switching implicit-explicit numerical technique for nonlinear unstable structures. Revista Internacional de Métodos Numéricos para Calculo y Diseño en Ingeniería, 29(2), 92-103.(P)

[25] **JL Curiel-Sosa** & Karapurath N (2012) Delamination modelling of GLARE using the extended finite element method. Composites Science and Technology, 72(7), 788-791.(P)

[26] **JL Curiel-Sosa** (2010) Modeling of the nonlinear interface in reinforced concrete. International Journal of Computational Methods in Engineering Science and Mechanics, 11(3), 157-161.(P)

[27] **JL Curiel-Sosa** & Gil AJ (2009) Analysis of a continuum-based beam element in the framework of explicit-FEM. Finite Elements in Analysis and Design, 45(8-9), 583-591.(P)

[28] **JL Curiel-Sosa**, Petrinic N & Wiegand J (2008) A three-dimensional progressive damage model for fibre-composite materials. Mechanics Research Communications, 35(4), 219-221.(P)

[29] **JL Curiel-Sosa**, de Souza Neto E & Owen DRJ (2006) A combined implicit-explicit algorithm in time for non-linear finite element analysis. Communications in Numerical Methods in Engineering, 22(1), 63-75.(P)

[30] Petrinic N, **JL Curiel-Sosa**, Siviour CR & Elliott BCF (2006) Improved predictive modelling of strain Localisation and ductile fracture in a Ti-6Al-4V alloy subjected to impact loading. Journal De Physique. IV : JP, 134, 147-155.(J)

Refereed Conference Papers – in Print/Press

[1] Akbar, M & **JL Curiel-Sosa** (2017). Implementation of Multiphase Piezoelectric Composites on Aircraft Wingbox Structure for Energy Harvesting Purpose. In Proceedings of the 20th International Conference on Composite Structures. Paris, France, 4-7 September 2017.

[2] Abdullah NA, **JL Curiel-Sosa** & Akbar M (2017) Flutter assessment on composite plate with crack by means of fully coupled Finite Element and Doublet Lattice Method. Proceedings of the 3rd International Conference on Mechanics of Composites. Bologna, 4 July 2017 - 7 July 2017.

[3] Abdullah NA, **JL Curiel-Sosa**, Taylor ZA, Tafazzolimoghaddam B, Martinez Vicente JL & Zhang C (2017) Modelling of transversal crack and delamination under traction with XFEM. Proceedings of the 3rd International Conference on Mechanics of Composites, 4 July 2017 - 7 July 2017.

[4] Ahmad MIM, **JL Curiel-Sosa** & Rongong J (2017) Development of modified-Rousselier model for creep damage problems in eXtended finite element method (XFEM) approach. CFRAC 2017. Nantes, France, 14 June 2017 - 16 June 2017.

[5] **JL Curiel-Sosa**, Tafazzolimoghaddam B, Navarro-Zafra J, Akbar M, Abdullah NA & Ahmad MIM (2017) Modelling technique for delamination and fracture. Proceedings of the 7th International Conference on Mechanics and Materials in Design. Albufeira, Portugal, 11 June 2017 - 15 June 2017.

[6] Bui, TQ, Batra, R, Hirose, S, Nguyen, D, **JL Curiel-Sosa**. Advances in Computational Failure of Composites Engineering Mechanics Institute Conference, San Diego, CA, on June 4-7, 2017

[7] Akbar M, **JL Curiel-Sosa** (2017). Hybrid mathematical/isogeometric analysis of piezoelectric energy harvester composite under dynamic bending. Proceedings of the 7th International Conference on Mechanics and Materials in Design, Albufeira, Portugal, 11-14 June 2017.

[8] Navarro-Zafra J, **JL Curiel-Sosa** J, Serna Moreno MC, Pinna , Martinez Vicente JL, Rohaizat N & Tafazzolimoghaddam B (2016) An approach for dynamic analysis of stationary cracks using XFEM. Proceedings of the 24th UK Conference of the Association for Computational Mechanics in Engineering. Cardiff, UK, 31 March 2016 - 1 April 2016.

[9] **JL Curiel-Sosa** J, Navarro-Zafra J, Tafazzolimoghaddam B & Serna Moreno MC (2016) Extended Finite Element Method: Strategies for Delamination and Fracture in Composites. Proceedings of II Mech Comp conference. Porto, Portugal, 11 July 2016 - 14 July 2016.

[10] **JL Curiel-Sosa** J & Apetrei R (2016) A numerical investigation on Circulation Controlled Lift Augmentation for STOL Aircraft. The 2016 Applied Aerodynamics Conference: Evolution & Innovation Continues- The Next 150 Years of Co. Bristol, 21 July 2016.

[11] Meor Ahmad MI & **JL Curiel-Sosa** J (2016) Characterization of Creep Behaviour using Maxwell Model in 7075 Aluminium Alloy. Symposium on Damage Mechanism in Materials and Structures 2016 (SDMMS 2016). Malaysia, 9 August 2016.

[12] **JL Curiel-Sosa** & Apetrei R (2016) A numerical investigation on Circulation Controlled Lift Augmentation for STOL Aircraft. The 2016 Applied Aerodynamics Conference: Evolution & Innovation Continues- The Next 150 Years of Co. Bristol, 21 July 2016.

[13] Tafazzolimoghaddam B, **JL Curiel-Sosa** & Navarro-Zafra J (2015) On the calculation of energy release rates in composite laminates by Finite Elements, Boundary Elements and Analytical Methods, 8 April 2015 - 10 April 2015.

[14] Navarro-Zafra J, **JL Curiel-Sosa** & Serna Moreno MC (2015) 3D Crack analysis of a CGRP cruciform under biaxial loading using two numerical approaches: XFEM and PDM. 23rd UK Conference of the Association for Computational Mechanics in Engineering. Swansea, 8 April 2015 - 10 April 2015.

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