

Parte A. DATOS PERSONALES

Fecha del CVA

01/07/2021

Nombre y apellidos	Rubén Paz Hernández		
DNI/NIE/pasaporte	42191125V	Edad	34
Núm. identificación del investigador	Researcher ID	H-2517-2015	
	Código Orcid	0000-0003-1223-7067	

A.1. Situación profesional actual

Organismo	Universidad de Las Palmas de Gran Canaria		
Dpto./Centro	Departamento de Ingeniería Mecánica de la ULPGC		
Dirección	Edificio de Ingenierías, Campus Universitario de Tafira, Las Palmas de Gran Canaria, 35017		
Teléfono	699184293	Correo electrónico	ruben.paz@ulpgc.es
Categoría profesional	Profesor Contratado Doctor	Fecha inicio	2020
Palabras clave	Procesos de fabricación, Fabricación Aditiva, Fibras Naturales		

A.2. Formación académica

Licenciatura/Grado/Doctorado	Universidad	Año
Programa Oficial de Doctorado en Sistemas Inteligentes y Aplicaciones Numéricas en Ingenierías	Universidad de Las Palmas de Gran Canaria	2014
Máster Universitario en Sistemas Inteligentes y Aplicaciones Numéricas en Ingenierías	Universidad de Las Palmas de Gran Canaria	2012
Ingeniero Industrial	Universidad de Las Palmas de Gran Canaria	2011

A.3. Indicadores generales de calidad de la producción científica

- 151 citations since 2016; h-index: 6; 30 citations/year in the last 5 years. (Source: Scopus)
- 18 publications; 136 citations; h-index: 6; 7.6 citations/item; 22.7 citations/year. (Source: Web of Science)
- Main researcher of 3 research projects (ongoing).
- Supervisor of 5 PhD thesis ongoing.

Parte B. RESUMEN LIBRE DEL CURRÍCULUM

Dr. Rubén Paz (1987) completed the Industrial Engineering degree at the University of Las Palmas de Gran Canaria (ULPGC) in 2011. Since then, he has been linked to the research group of Integrated and Advanced Manufacturing at ULPGC, initially hired under different research projects (full time from 2011 to 2015 and half time from 2015 to 2017) and later as a lecturer linked to the group (from 2017 to present). In 2012, he finished the Master's Degree in Intelligent Systems and Numerical Applications in Engineering and presented his PhD in 2014 (ULPGC). Since 2015, he has been lecturer at ULPGC in the department of Mechanical Engineering, in the field of Manufacturing Processes (2015-2017 as a half-time Assistant Professor, 2017-2019 as a PhD Assistant Professor and since 2020 as an Associate Professor). His main research lines are related to manufacturing processes, Additive Manufacturing (also applied in the medical field and tissue engineering for regenerative medicine), optimization, polymer processing, numerical simulations, material characterization and natural fibres. He has taken part in 16 research projects (regional, national and European projects, 3 of them as the main researcher) and 2 educational innovation projects, 21 scientific papers (16 JCR, 2 SJR, 2 in indexed journals), 5 book chapters, 23 participations in conferences (16 presentations and 1 poster related to research activities, and 16 presentations related to educational innovation), 1 national and 1 international patents, reviewer of 45 contributions to JCR journals (16 reviews for Additive Manufacturing journal, 2 for Advances in Mechanical Engineering, 3 for Computers in Industry, 2 for Engineering Computations, 3 for Engineering Optimization, 3 for Industrial & Engineering Chemistry Research, 1 for Journal of Materials Science, 1 for Journal of Natural Fibers, 2 for Journal of Testing and Evaluation, 2 for Materials, 6 for Part C: Journal of Mechanical Engineering Science, 2 for Processes, 2 for Revista de ingeniería DYNA) and Guest Editor of the Special Issue "Design and Application of



Additive Manufacturing” (Materials, MDPI). He has been supervisor of 35 degree final projects (mainly in the Mechanical Engineering degree and in the Master in Industrial Engineering). He is also the supervisor of 5 PhD thesis currently ongoing.

Parte C. MÉRITOS MÁS RELEVANTES

C.1. Publicaciones

1 Scientific paper. Jacob Abdelfatah-; Rubén Paz-; María Elena-Alemán-Domínguez; Mario Monzón-; Ricardo Donate-; Gabriel Winter-. (2/6). 2021. Experimental Analysis of the Enzymatic Degradation of Polycaprolactone: Microcrystalline Cellulose Composites and Numerical Method for the Prediction of the Degraded Geometry Materials. Multidisciplinary Digital Publishing Institute-MDPI. 14, pp.2460-2460. ISSN 1996-1944.

2 Scientific paper. Dragan Kusic-; Uros Bozic-; Mario Monzón-; Rubén Paz-; Pablo Bordón-. (4/5). 2020. Thermal and Mechanical Characterization of Banana Fiber Reinforced Composites for Its Application in Injection Molding Materials. Multidisciplinary Digital Publishing Institute-MDPI. 13, pp.3581-3581. ISSN 1996-1944.

3 Scientific paper. Rubén Paz-; Rocío Moriche-; Mario Monzón-; Joshua-García. (1/ 4). 2020. Influence of Manufacturing Parameters and Post Processing on the Electrical Conductivity of Extrusion-Based 3D Printed Nanocomposite Parts Polymers. Multidisciplinary Digital Publishing Institute-MDPI. 12, pp.733-733. ISSN 2073-4360.

4 Scientific paper. Zaida Ortega-; Rubén Paz-; Alba Montejo-; Luis Suárez-. (2/ 4). 2020. Mechanical and fire characterization of composite material made of polyethylene matrix and dry chemical powder obtained from end-of-life extinguishers Fire and Materials. Wiley-Blackwell. pp.1-10. ISSN 0308-0501.

5 Scientific paper. Rubén Paz-; Mario D.-Monzón. (1/2). 2019. Optimization methodology for the material assignation in bioprinted scaffolds to achieve the desired stiffness over time International Journal for Numerical Methods in Biomedical Engineering. Wiley-Blackwell. e3248. ISSN 2040-7939.

6 Scientific paper. Zaida Ortega-; Jessica Castellano-; Luis Suárez-; Rubén Paz-; Noelia Díaz-; Antonio N.-Benítez; María D.-Marrero. (4/7). 2019. Characterization of Agave americana L. plant as potential source of fibres for composites obtaining SN Applied Sciences. Springer. 1, pp.987-987. ISSN 2523-3971, ISSN 2523-3963.

7 Scientific paper. Ao Fang-; Zhiyan Hao-; Ling Wang-; Dichen Li-; Jiankang He-; Lin Gao-; Xinggang Mao-; Rubén Paz-. (8/8). 2019. In vitro model of the glial scar International Journal of Bioprinting. 5 (2)-5(2), pp.235-235. ISSN 24248002.

8 Scientific paper. Mario D.-Monzón; Rubén Paz-; Martí Verdaguer-; Luis Suárez-; Pere Badalló-; Zaida Ortega-; Noelia Diaz-. (2/7). 2019. Experimental Analysis and Simulation of Novel Technical Textile Reinforced Composite of Banana Fibre Materials. Multidisciplinary Digital Publishing Institute-MDPI. 12, pp.1134-1134. ISSN 1996-1944.

9 Scientific paper. Rubén PAZ-; Mario D.-MONZÓN; Philippe BERTRAND-; Alexey SOVA-. (1/4). 2019. Comparison of different cellular structures for the design of selective laser melting parts through the application of a new lightweight parametric optimisation method Journal of Zhejiang University-SCIENCE A. Springer. 20 (2)-20(2), pp.117-132. ISSN 1673-565X.

10 Scientific paper. Rubén Paz-; Javier Santamarta-; Mario D.-Monzón; Joshua García-; Eujin Pei-. (1/5). 2018. An analysis of key process parameters for hybrid manufacturing by material extrusion and CNC machining Bio-Design and Manufacturing. Springer. 1, pp.1-8. ISSN 2096-5524.

11 Scientific paper. Hernández-Castellano, Pedro-M; Marrero-Alemán, M.-Dolores; Aranda-Loureiro, Ana-M.; Ortega-García, Fernando-; Paz-Hernández,-Rubén; Benítez-Vega, Antonio-N. (5/6). 2017. Development of Interactive Learning Materials in Engineering of Manufacturing Processes Materials Science Forum. 903, pp.63-69. ISSN 1662-9752.

12 Scientific paper. Eujin Pei-; Giselle Hsiang-Loh; David Harrison-; Mario Domingo Monzón-Verona; Rubén Paz-. (5/5). 2017. A study of 4D printing and functionally graded additive manufacturing Assembly Automation. Emerald Publishing. 37, pp.147-153. ISSN 0144-5154.

13 Scientific paper. Mario Monzón-; Zaida Ortega-; Alba Hernández-; Rubén Paz-; Fernando Ortega-. (4/5). 2017. Anisotropy of Photopolymer Parts Made by Digital Light Processing Materials. Multidisciplinary Digital Publishing Institute-MDPI. 10, pp.64-64. ISSN 1996-1944.



- 14 Scientific paper.** Rubén Paz-; Eujin Pei-; Mario Monzón-; Fernando Ortega-; Luis Suárez-. (1/5). 2017. Lightweight parametric design optimization for 4D printed parts Integrated Computer-Aided Engineering. 24, pp.225-240. ISSN 1069-2509.
- 15 Scientific paper.** M. D.-Monzón; R. Paz-; E. Pei-; et al; N. Clow-. (2/9). 2017. 4D printing: processability and measurement of recovery force in shape memory polymers The International Journal of Advanced Manufacturing Technology. Springer. 89, pp.1827-1836. ISSN 0268-3768.
- 16 Scientific paper.** Rubén Paz-; Mario Domingo-Monzón; Begoña González-; Eujin Pei-; Gabriel Winter-; Fernando Ortega-. (1/6). 2016. Lightweight parametric optimisation method for cellular structures in additive manufactured parts International Journal for Simulation and Multidisciplinary Design Optimization. EDP Sciences. 7, pp.A6-A6.
- 17 Scientific paper.** Rubén Paz-; Mario D.-Monzón; Antonio N.-Benítez; Begoña González-. (1/4). 2016. New Lightweight Optimisation Method Applied in Parts Made by Selective Laser Sintering and Polyjet Technologies International Journal of Computer Integrated Manufacturing. Taylor & Francis. 29 (4)-29(4), pp.462-472. ISSN 0951-192X.
- 18 Scientific paper.** M. D.-Monzón; N. Diaz-; Z. Ortega-; R.-Paz; F. Ortega-; A. N.-Benítez. (4/6). 2016. Nickel-copper electroforming process applied to rotational mould starting from additive manufacturing Transactions of the IMF: The International Journal of Surface Engineering and Coatings. Taylor & Francis. 94 (3)-94(3), pp.120-126. ISSN 0020-2967.
- 19 Scientific paper.** Zaida Ortega-; Moisés Morón-; Mario D.-Monzón; Pere Badalló-; Rubén Paz-. (5/5). 2016. Production of Banana Fiber Yarns for Technical Textile Reinforced Composites Materials. Multidisciplinary Digital Publishing Institute-MDPI. 9, pp.370-370. ISSN 1996-1944.
- 20 Scientific paper.** Mario D.-Monzon; Rubén Paz-; Fernando Ortega-; Jose A.-Chapela; Claudio Conde-. (2/5). 2015. Process for reinforcing SLS parts by epoxy resin Rapid Prototyping Journal. Emerald Publishing. 21 (3)-21(3), pp.322-328. ISSN 1355-2546.
- 21 Scientific paper.** Pablo Bordón-; Rubén Paz-; Carolina Peñalva-; Gisela Vega-; Mario Monzón-; Lidia García-. (2/6). Biodegradable Polymer Compounds Reinforced with Banana Fiber for the Production of Protective Bags for Banana Fruits in the Context of Circular Economy Agronomy. Multidisciplinary Digital Publishing Institute-MDPI. 11(2)-11(2), pp.242-242. ISSN 2073-4395.
- 22 Book chapter.** Asunción Martínez-García-; Mario Monzón-; Rubén Paz-. (3/3). 2021. Standards for additive manufacturing technologies: structure and impact. Handbooks in Advanced Manufacturing, Additive Manufacturing. Elsevier. 12, pp.395-408. ISBN 9780128184110.
- 23 Book chapter.** Rubén Paz-; Mario Monzón-; Gisela Vega-; Noelia Díaz-; David Pestana-. (1/5). 2020. Use of Banana Crop Wastes to Develop Products in the Aquaculture and Plastic Sectors Agricultural, Forestry and Bioindustry Biotechnology and Biodiscovery. Springer. pp.259-270. ISBN 978-3-030-51357-3.
- 24 Book chapter.** Pedro Manuel-Hernández-Castellano; María Dolores-Marrero-Alemán; Rubén Paz-Hernández-; Pablo Rubén-Bordón-Pérez; Luis Adargoma-Suárez-García; Antonio Nizardo-Benítez-Vega. (3/6). 2019. Adaptive Learning Using Interactive Training Material Innovative Trends in Flipped Teaching and Adaptive Learning. IGI Global. pp.162-184. ISSN 2326-8905.
- 25 Book chapter.** Mario Monzón-; Rubén Paz-; Zaida Ortega-; Noelia Díaz-. (2/4). 2019. Knowledge Transfer and Standards Needs in Additive Manufacturing Additive Manufacturing - Developments in Training and Education. Springer. pp.1-13. ISBN 978-3-319-76083-4.
- 26 Book chapter.** Zaida Ortega-; Mario Monzón-; Rubén Paz-; Luis Suárez-; Moisés Morón-; Mark McCourt-. (3/6). 2017. Banana Fiber Processing for the Production of Technical Textiles to Reinforce Polymeric Matrices Sustainable Design and Manufacturing. Springer. pp.452-459. ISBN 978-3-319-57078-5.
- 27 Book chapter.** Rubén Paz-; Mario Monzón-; Begoña González-; Gabriel Winter-; Fernando Ortega-. (1/5). 2015. Lightweight Optimization for Additive Manufacturing Parts Based on Genetic Algorithms, Metamodels and Finite Element Analysis Evolutionary Algorithms and Metaheuristics in Civil Engineering and Construction Management. Springer. 39, pp.67-82. ISBN 978-3-319-20405-5.

C.2. Proyectos



- 1** ULPGC2018-16, Evaluación de la degradación de propiedades mecánicas a lo largo del tiempo en materiales poliméricos biodegradables obtenidos mediante Fabricación Aditiva (ULPGC2018-16) Universidad de Las Palmas de Gran Canaria. 01/01/2020- 31/12/2021. 2.907,55 €. Principal investigador.
- 2** DPI2015-71073-R, Mejora de la osteointegración de estructuras porosas de titanio mediante la optimización del diseño y modificación superficial con recubrimiento polimérico (SUPPORT) Ministerio de Economía y Competitividad. 01/01/2016-31/12/2018. 238.975 €. Team member.
- 3** MAT2013-47393-C2-1-R, Valorización de fibras extraídas del residuo del cultivo de plátano para la obtención de hilo, tejidos técnicos y materiales compuestos (BANTEX) Ministerio de Economía y Competitividad. 01/01/2014-30/04/2017. 218.540,82 €. Team member.
- 4** 7330/8/Q, Innovative sustainable rotomoulding process and biomaterials for energy efficient automotive and toy products (ROTELEC) Eurostars. 01/03/2014-31/12/2014. 87.500 €.
- 5** FP7-NMP-2012-CSA-6, Support action for standardization in additive manufacturing (SASAM) Unión Europea. 01/01/2014-28/02/2014. 28.038 €.
- 6** IPT – 2011 – 1894 – 420000, Desarrollo de Moldes Innovadores y Plásticos Biodegradables para un Proceso de Rotomoldeo más Sostenible (BIOROT) Ministerio de Ciencia e Innovación. 01/12/2011-31/12/2013. 169.941 €.
- 7** LEO05-21195, Knowledge Transfer of Rapid Manufacturing (KTRM) Unión Europea. 01/10/2010-30/09/2012. 31.217 €. Team member.
- 8** MAC2/3.5b/307, Vermicompost, compost y biochar, herramientas para la adaptación al cambio climático, la prevención y mitigación de los efectos derivados de los riesgos naturales en el medio agrícola y forestal (VERCOCHAR), MAC2/3.5b/307 Unión Europea, Fondo Europeo de Desarrollo Regional, INTERREG. 189.555,33 €. Principal investigador.
- 9** S0110, New EDM electrodes manufactured with electrically conductive materials by AM (EDM Additive) Unión Europea (SMART EUREKA). 73.500 €. Principal investigador.
- 10** 2018-1-RO01-KA203-049317, Brain Revealed: Innovative Technologies in Neurosurgery Study (BrainIT) Unión Europea (Erasmus+ Programme). 280.714 €. Team member.
- 11** GOB-ESP2017-01, Valorización de fibra de platanera para filtración de aire mediante desarrollo de filtros de celulosa y nanocelulosa (BANFILT), GOB-ESP2017-01 Universidad de Las Palmas de Gran Canaria. 26.641,04 €. Team member.
- 12** MAC2/4.6d/229, Potencial aprovechamiento de biomasa generada a partir de especies vegetales invasoras de la Macaronesia para uso industrial (Inv2Mac), MAC2/4.6d/229 Gobierno de Canarias (Interreg). 623.356,56 €. Team member.
- 13** MAC/4.6d/040, Valorización ecosostenible de especies vegetales invasoras de la Macaronesia para la obtención de fibras de uso industrial (ECOFIBRAS) Fondo Europeo de Desarrollo Regional INTERREG. 953.607,48 €. Team member.
- 14** DPI2017-88465-R, Mejora de la biofuncionalidad de scaffolds poliméricos obtenidos por fabricación aditiva (BioAM) Ministerio de Ciencia, Innovación y Universidades. 217.800 €. Team member.
- 15** H2020-MSCA-RISE-2016-734156, Biomaterials and Additive Manufacturing: Osteochondral Scaffold innovation applied to osteoarthritis (BAMOS) Unión Europea (H2020). 225.000 €. Team member.
- 16** LIFE15 ENV/ES/000157, Solutions through the new use for a waste of banana crop to develop products in aquaculture and plastics sector (LIFE BAQUA) Unión Europea (Programa LIFE). 470.487 €. Team member.

C.4. Patentes

- 1** ES2514215 B1. Procedimiento y máquina para la obtención de fibra a partir de hojas 23/06/2015. Universidad de Las Palmas de Gran Canaria.
- 2** WO 2014/174115 A1. Method and machine for obtaining fiber from leaves 30/10/2014.