

<b>Date of the CVA</b>	12/06/2021
------------------------	------------

## Section A. PERSONAL DATA

Name and Surname	Juan Alberto Sánchez Margallo		
DNI	28962244T		
Researcher's identification number	Researcher ID		
	Scopus Author ID	36679257500	
	ORCID	0000-0002-0100-2695	

\* Obligatorio

### A.1. Current professional situation

Institution	FUNDACION CENTRO DE CIRUGIA DE MINIMA INVASION		
Dpt. / Centre	Unidad de Bioingeniería y Tecnologías Sanitarias / Bioengineering and Health Technologies Unit / Centro de Cirugía de Mínima Invasión Jesús Usón		
Address	Avda. Isabel de Moctezuma 25 1º C, 10005, Cáceres		
Phone		Email	
Professional category	Investigador Doctor / Research Scientist	Start date	2017
Keywords	Medicine; Information technology and adata processing		

### A.2. Academic education (Degrees, institutions, dates)

Bachelor/Master/PhD	University	Year
Doctor en Tecnologías informáticas / PhD in Computer Technologies	Universidad de Extremadura	2014
Ingeniero en Informática / Computer scientist	Universidad de Extremadura	2007

### A.3. General quality indicators of scientific production

**Fuente / Source: Web of Science - JCR**

Sum of the times cited / Total de veces citado: 371

Average citations per item / Promedio de citas por elemento: 8.24

h-index: 11

## Section B. SUMMARY OF THE CURRICULUM

Dr. Juan A. Sánchez Margallo obtained the degree in Computer Science from the University of Extremadura (Spain) in 2007. In 2008, he obtained a Researcher Staff Training Scholarship from the Extremadura Region Government (Spain). From 2008 to 2015, he was a researcher at the Bioengineering and Health Technology Unit of the Jesús Usón Minimally Invasive Surgery Centre (JUMISC) (Spain). In 2011, he was a predoctoral visiting researcher at the Computer Vision Group, Department of Computer Science, University of Bristol (UK) for six months. In 2013, he was awarded by the Spanish Society of Biomedical Engineering with a scholarship for young researchers. In 2014, he earned the PhD degree with European Mention from the University of Extremadura within the field of Bioengineering, obtaining the PhD Extraordinary Award. From 2015 to 2017, he did a postdoctoral specialization for two years at the Department of Medical Technology of SINTEF Technology and Society (Norway). From 2016 to 2017 he completed the online Data Science Specialization from the Johns Hopkins University, USA. In 2017, he was a postdoctoral visiting researcher for three months at the Department of Biomechanical Engineering, Technical University of Delft (The Netherlands). From 2017, he is scientific researcher at the Bioengineering and Health Technology Unit of the JUMISC. He currently has a contract associated with a grant from the Regional Government of Extremadura to attract research talent to R&D&I centres belonging to the System of Science, Technology and Innovation. He has participated in 30 R&D projects funded by European/International (13), national (11) and regional (7) competitive programs. He is the author of 23 papers in JCR-

indexed journals, 16 book chapters, 3 books, more than 190 papers presented at national and international conferences, 3 patents (one European), 3 utility models, and 1 Industrial Design.

## Section C. MOST RELEVANT MERITS (ordered by typology)

### C.1. Publications

AC: JA Sánchez-Margallo (Corresponding author)

- 1 **Scientific paper.** FM Sánchez-Margallo; D Durán; A Serrano; J Mayol; JA Sánchez-Margallo. (5/5). 2021. Comparative study of the influence of 3D versus 2D urological laparoscopy on surgeons' surgical performance and ergonomics: A systematic review and meta-analysis *Journal of Endourology*. MARY ANN LIEBERT, INC. 35-2, pp.123-137.
- 2 **Scientific paper.** (AC); A González; L García; JC Gómez-Blanco; JB Pagador; FM Sánchez-Margallo. (1/6). 2020. Comparative Study of the Use of Different Sizes of an Ergonomic Instrument Handle for Laparoscopic Surgery *Applied Sciences*. MDPI. 10-4, pp.1526. ISSN 2076-3417.
- 3 **Scientific paper.** FM Sánchez-Margallo; M Veloso Brun; JA Sánchez-Margallo. (3/3). 2020. Identification of intra-abdominal lymphatics in canine carcasses by laparoscopic fluorescence lymphography with intradermal and intrapopliteal ICG administration *PLoS One*. PUBLIC LIBRARY SCIENCE. 15-11, pp.e0241992.
- 4 **Scientific paper.** NJ van de Berg; JA Sánchez-Margallo; AP van Dijke; T Langø; JJ van den Dobbelen. (2/5). 2019. A methodical quantification of needle visibility and echogenicity in ultrasound images *Ultrasound in Medicine and Biology*. Elsevier. 0-0, pp.1-12.
- 5 **Scientific paper.** S Morales Conde; A Peeters; YM Meyer; et al; ;. (28/33). 2019. European Association for Endoscopic Surgery (EAES) consensus statement on single-incision endoscopic surgery *Surgical Endoscopy*. Springer.
- 6 **Scientific paper.** A Rethy; JO Sæternes; J Halgunset; R Mårvik; EF Hofstad; (AC); T Langø. (6/7). 2018. Anthropomorphic liver phantom with flow for multimodal image-guided liver therapy research and training *International Journal of Computer Assisted Radiology and Surgery*. Springer. 13-1, pp.61-72. ISSN 1861-6410.
- 7 **Scientific paper.** FM Sánchez-Margallo; JA Sánchez-Margallo. (2/2). 2018. Assessment of Postural Ergonomics and Surgical Performance in Laparoendoscopic Single-Site Surgery Using a Handheld Robotic Device *Surgical Innovation*. SAGE PUBLICATIONS INC. 25-3, pp.208-217. ISSN 1553-3506, ISBN 1553350618.
- 8 **Scientific paper.** I Oropesa; F Pérez; JA Sánchez-Margallo; et al; . (3/9). 2018. Interpretation of motion analysis of laparoscopic instruments based on principal component analysis in box trainer settings *Surgical Endoscopy*. Springer. 32-7, pp.3096-3107. ISSN 0930-2794, ISBN 0123456789.
- 9 **Scientific paper.** A Arezzo; N Vettoreto; NK Francis; et al; ;. (27/31). 2018. The use of 3D laparoscopic imaging systems in surgery: EAES consensus development conference 2018 *Surgical Endoscopy*. Springer.
- 10 **Scientific paper.** JA Sánchez-Margallo; FM Sánchez-Margallo. (1/2). 2017. Initial experience using a robotic-driven laparoscopic needle holder with ergonomic handle: assessment of surgeons' task performance and ergonomics *International Journal of Computer Assisted Radiology and Surgery*. Springer. 12-12, pp.2069-2077.
- 11 **Scientific paper.** (AC); FM Sánchez-Margallo; I Oropesa; S Enciso; EJ Gómez. (1/5). 2017. Objective assessment based on motion-related metrics and technical performance in laparoscopic suturing *International Journal of Computer Assisted Radiology and Surgery*. Springer. 12-2, pp.307-314. ISSN 1861-6410.
- 12 **Scientific paper.** FM Sánchez-Margallo; JA Sánchez-Margallo; JL Moyano-Cuevas; EM Pérez; J Maestre. (2/5). 2017. Use of natural user interfaces for image navigation during laparoscopic surgery: Initial experience *Minimally Invasive Therapy & Allied Technologies*. Taylor & Francis LTD. 26-5, pp.253-261. ISSN 1364-5706.

- 13 **Scientific paper.** HAW Meijer; JA Sánchez-Margallo; FM Sánchez-Margallo; JC Goslings; MP Schijven. (2/5). 2017. Wearable technology in an international telementoring setting during surgery: a feasibility study *BMJ Innovations*. *BMJ*. 3-4, pp.189-195. ISSN 2055-8074.
- 14 **Scientific paper.** Fernando Pérez Escamiroso; Alberto Chousleb Kalach; María del Carmen Hernández Baro; Juan A. Sánchez-Margallo; Daniel Lorias Espinoza; Arturo Minor Martínez. (4/6). 2016. Construct validity of a video tracking system based on orthogonal cameras approach for objective assessment of laparoscopic skills *International Journal of Computer Assisted Radiology and Surgery*. Springer. 11-12, pp.2283-2293. ISSN 1861-6410.
- 15 **Scientific paper.** AE Tapia-Araya; J Usón-Gargallo; JA Sánchez-Margallo; FJ Pérez-Duarte; I Díaz-Güemes; FM Sánchez-Margallo. (3/6). 2016. Muscle activity and hand motion in veterinarians performing laparoscopic training tasks with a box trainer *American Journal of Veterinary Research*. American Veterinary Medical Association. 77-2, pp.186-193. ISSN 0002-9645.
- 16 **Scientific book or monograph.** FM Sánchez-Margallo; JA Sánchez-Margallo. (2/2). 2019. *Recent Advances in Laparoscopic Surgery* IntechOpen. ISBN 978-1-83962-586-2.

## C.2. Participation in R&D and Innovation projects

- 1 TA18023, Desarrollo e implantación de nuevas tecnologías portables y de inteligencia y visión artificial para la formación y asistencia en cirugía de mínima invasión / Development and implementation of new portable technologies and artificial intelligence and vision for training and assistance in minimally invasive surgery Junta de Extremadura. Ayudas destinadas a la atracción y retorno de talento investigador a Centros de I+D+i pertenecientes al Sistema Extremeño de Ciencia, Tecnología e Innovación. JA Sánchez-Margallo. (Centro de Cirugía de Mínima Invasión Jesús Usón). 21/01/2020-20/01/2024. 186.982,4 €. Principal investigator.
- 2 621668-EPP-1-2020-1-ES-EPPKA2-KA, Mixed Reality in medical Education based on Interactive Applications Erasmus + Programme – Key Action 2 (KA2) — Cooperation for innovation and the exchange of good practices. FM Sánchez-Margallo. (Centro de Cirugía de Mínima Invasión Jesús Usón). 01/01/2021-2024. 999.790 €. Jefe de Proyecto / Project Manager.
- 3 CPI-2019-33-1-TRE-14, Sistemas de cirugía robótica de mínima invasión / Minimally invasive robotic surgery systems Junta de Extremadura; Ministerio de Ciencia e Innovación. Programa de Compra Pública Innovadora FID-CPI. FM Sánchez-Margallo. (Centro de Cirugía de Mínima Invasión Jesús Usón). 27/04/2020-30/06/2023. 7.345.300 €. Jefe de Proyecto / Project Manager.
- 4 IB20189, Estudio de la aplicación de técnicas de realidad mixta para la mejora de la planificación quirúrgica en cirugía laparoscópica del cáncer colorrectal / Study of the application of mixed reality techniques to improve surgical planning in laparoscopic colorectal cancer surgery Ayudas destinadas a la realización de proyectos de investigación en los centros públicos de I+D+i de la Comunidad Autónoma de Extremadura. JA Sánchez-Margallo. (Centro de Cirugía de Mínima Invasión Jesús Usón). 2021-2023. 112.198,9 €. Principal investigator.
- 5 588404-EPP-1-2017-1-ES-EPPKA2-KA, European Knowledge Alliance for innovative education of Surgical and Interventional Skills ERASMUS+ Knowledge Alliances for higher education. E de la Cruz. (Centro de Cirugía de Mínima Invasión Jesús Usón). 01/11/2017-31/10/2020. 1.000.000 €. Team member.
- 6 LCF/PR/MIT18/11830006, Developing a Sensor Framework for Minimally Invasive Surgery MIT - Spain "la Caixa" Foundation Seed Fund. T Malone. (Centro de Cirugía de Mínima Invasión Jesús Usón). 01/01/2019-31/08/2020. 27.000 €. Jefe de Proyecto / Project Manager.

- 7 PO14034, Desarrollo, integración y validación de un modelo de navegación quirúrgica para cirugía guiada por imagen y terapia en cáncer de páncreas / Development, integration and validation of a surgical navigation model for image-guided surgery and therapy in pancreatic cancer European Social Fund; Junta de Extremadura. Especialización postdoctoral de Investigadores. JA Sánchez Margallo. (SINTEF Technology and Society). 27/05/2015-27/05/2017. 66.900 €. Principal investigator.

### C.3. Participation in R&D and Innovation contracts

Piloto 5G - Cáceres / Pilot project for the implementation of 5G technology in the city of Cáceres RED.ES. (Gamma Solutions). 20/10/2020-20/10/2022. 3.141.628,93 €.

### C.4. Patents

- 1 C Armendariz Estrella; JJS Gil Madre; JJ Gómez Borrallo; FM Sánchez Margallo; JA Sánchez Margallo; J Castillo Rabazo; A Gordillo Guerrero. U202130955. Sistema de medición universal de capacidad de bolsas recolectoras e infusoras de líquidos y fluidos corporales con lectura remota e in situ / Universal capacity measurement system for collection and infusion bags for liquids and body fluids with remote and on-site monitoring Spain. 11/05/2021. Fundación Centro de Cirugía de Mínima Invasión Jesús Usón; Ingeniería para la Economía del Conocimiento Enki Blue, S.L.; Carlos Armendariz Estrella; Jose Javier Santiago Gil Madre.
- 2 M Veloso Brun; JA Sánchez-Margallo; FM Sánchez-Margallo. BR 10 2019 013473 9. Plataforma de tração multidirecional para videocirurgia gasless / Multidirectional traction platform for gasless video surgery Brazil. 28/06/2019. Universidad Federal de Santa María (Brasil); Fundación Centro de Cirugía de Mínima Invasión Jesús Usón. Fundación Centro de Cirugía de Mínima Invasión Jesús Usón; Universidade Federal de Santa Maria.
- 3 José Blas Pagador Carrasco; Francisco Miguel Sánchez Margallo; Jesús Usón Gargallo; Marcos Lucas Hernández; José Luis Moyano García-Cuevas; Juan Alberto Sánchez Margallo; Luisa Fernanda Sánchez Peralta; Pablo Bustos García de Castro; José Moreno del Pozo. ES2402610B1. Conjunto de accesorios universales para dispositivos de seguimiento de instrumentos / Universal accessory kit for instrument tracking devices Spain. 04/03/2014. Centro de Cirugía de Mínima Invasión Jesús Usón; Universidad de Extremadura.
- 4 Francisco Miguel Sánchez Margallo; José Blas Pagador Carrasco; Marcos Lucas Hernández; Juan Alberto Sánchez Margallo; Francisco Julián Pérez Duarte; Idoia Díaz? Güemes Martín?Portugués; Jesús Usón Gargallo; Alfonso Oltra Pastor; Purificación Castelló Mercé; Juan Fayos Sancho; Carlos Manuel Atienza Vicente; Ignacio Bermejo Bosch; Lorenzo García Moruno; David Rodríguez Salgado; Francisco José Gil Peña; Ángel Benito Rodríguez. EP2471473. Apparatus for laparoscopic surgery Spain. 04/07/2012. Centro de Cirugía de Mínima Invasión Jesús Usón; Instituto de Biomecánica de Valencia (IBV); Universidad de Extremadura.
- 5 Jesús Usón Gargallo; Miguel Ángel Sánchez Hurtado; Laura Correa Martín; Juan Alberto Sánchez Margallo; Juan Maestre Antequera; Juan José Guerra Valiente; Ricardo Santos Villegas; Francisco Miguel Sánchez Margallo. ES1073932U. Dispositivo de Simulación para Prácticas de Laparoscopia, Toracoscopia, Endoscopia, Puerto Único y Notes en Veterinaria / Simulation Device for Laparoscopy, Thoracoscopy, Endoscopy, Single Port and Notes Practices in Veterinary Medicine Spain. 30/05/2011. Centro de Cirugía de Mínima Invasión Jesús Usón.
- 6 Francisco Miguel Sánchez Margallo; José Blas Pagador Carrasco; Marcos Lucas Hernández; Juan Alberto Sánchez Margallo; Francisco Julián Pérez Duarte; Idoia Díaz? Güemes Martín?Portugués; Jesús Usón Gargallo; Alfonso Oltra Pastor; Purificación Castelló Mercé; Juan Fayos Sancho; Carlos Manuel Atienza Vicente; Ignacio Bermejo Bosch; Lorenzo García Moruno; David Rodríguez Salgado; Fátima Lozano Rodríguez; Alfonso González González. ES1073794U. Aparato de sutura para cirugía laparoscópica / Suturing apparatus for laparoscopic surgery Spain. 06/05/2011. Centro de Cirugía de Mínima Invasión Jesús Usón; Instituto de Biomecánica de Valencia (IBV); Universidad de Extremadura.