

Part A. PERSONAL INFORMATION

CV date	1/10/2019
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First and Family name	Víctor Fernando Muñoz Martínez		
Social Security, Passport, ID number	33354092K	Age	53
Researcher codes	WoS Researcher ID (*)		
	SCOPUS Author ID(*)	6507576475	
	Open Researcher and Contributor ID (ORCID) **	0000-0003-2404-0050	

(*) At least one of these is mandatory

(**) Mandatory

A.1. Current position

Name of University/Institution	Universidad de Málaga		
Department	Ing. de Sistemas y Automática. Escuela de Ingeniería Industrial		
Address and Country	Edificio de Institutos Universitarios. C/Severo Ochoa, 4 Parque Tecnológico de Andalucía. 29590, Málaga		
Phone number	670947928	E-mail	vfmm@uma.es
Current position	Catedrático de Universidad	From	18/11/2009
Key words			

A.2. Education

PhD	University	Year
BsD Computer Science	Universidad de Málaga	1989
MsC Computer Science	Universidad de Málaga	1990
PhD Computer Science	Universidad de Málaga	1995

A.3. JCR articles, h Index, thesis supervised...

- Research six-year terms: 1994-1999, 2000-2005 y 2006-2014.
- PhD Theses supervised: 8
- Overall cites: 32 in the last 10 years.
- Publications in JCR-Q1: 3 in the last 10 years

Part B. CV SUMMARY (max. 3500 characters, including spaces)

The researcher background is focused on mobile and surgical robotics. This researcher founded the group of medical robotics of the University of Malaga in 1998, and his activity has been funded by research projects of the Spanish Government. In this project, Dr. Muñoz has been the main researcher. His main achievement has been to introduce in human clinic a cameraman robotic assistant. This robot has led to four licensed patents, one of them extended internationally. Another mayor achievements are the development of a mobile robot for greenhouse operation, which appeared in the cover of the journal IEEE Robotics and Automation Magazine in 1994, and the design and development of a goniometer for luminaires characterization, which resulted in a licensed patent. He has participated in 16 research projects, and he has been main researcher in 7 of them. As a result of his research he has published 7 book chapters, 18 journals, 57 international conferences and 43 national conferences (h-index: 10; overall citations: 349). Moreover, his research is protected with 8 patents, 5 which are currently in exploitation and one extended internationally. The valuation of his research has led to 3 six-years terms, 4 autonomic complements, one SPIN-OFF award and one Andalusian award.

His teaching experience includes being the responsible of more than 10 courses, supervisor of more than 20 end of degree projects, and 8 Phd theses.

His management experience includes the position of secretary and director of his Department, director of Secretarial of the OTRI and I+D Centers of the University of Malaga. Currently, he is academic vice rector of Strategic Projects.



Part C. RELEVANT MERITS

C.1. Publications (including books)

- Carlos J. Pérez-del Pulgar, Jan Smisek, Irene Rivas-Blanco, Andre Schiele, and Victor F. Muñoz. Using Gaussian Mixture Models for Gesture Recognition During Haptically Guided Telemanipulation. *Electronics*, 8(7):772, jul 2019.
- Irene Rivas-Blanco, Carlos Perez-del Pulgar, Carmen López-Casado, Enrique Bauzano, and Víctor Muñoz. Transferring Know-How for an Autonomous Camera Robotic Assistant. *Electronics*, 8(2):224, feb 2019.
- I. Rivas-Blanco, C. López-Casado, C.J. Pérez-del-Pulgar, F. García-Vacas, J.C. Fraile, V.F. Muñoz, “Smart Cable-Driven Camera Robotic Assistant”, *IEEE Transactions on Human-Machine Systems*, pp. 183-196, 2017. DOI. 10.1109/THMS.2017.2767286.
- I. Rivas-Blanco, E. Sánchez-de-Badajoz, I. García-Morales, J.M. Lage-Sánchez, P. Sánchez-Gallegos, C.J. Pérez-del-Pulgar, V.F. Muñoz. “Sistema de visión global en laparoscopia / Global vision system in laparoscopy”, *Actas urológicas españolas* 938, pp. 274-278, 2017. ISSN. 2173-5786
- Carmen López-Casado, E. Bauzano, I. Rivas-Blanco, Víctor F. Muñoz, J.C. Fraile, “Collaborative Robotic System for Hand-Assisted Laparoscopic Surgery”, *ROBOT 2017: Third Iberian Robotics Conference*, pp. 1-6, 2017. Springer International Publishing AG. DOI 10.1007/978-3-319-70836-2_45
- C.J. Pérez-del-Pulgar, I. García-Morales, I. Rivas-Blanco, V.F. Muñoz. “Navigation method for teleoperated single-port access surgery with soft tissue interaction detection”. *IEEE Systems Journal*, pp. 1-12, 2016. ISSN. 1932-8184 /1937-9234
- E. Bauzano, B. Estebanez, I. García-Morales, V.F. Muñoz. “Planning Automatic Surgical Tasks for a Robot Assistant”. *Motion and Operation Planning of Robotic Systems: Background and Practical Approaches. Mechanisms and Machine Science*, vol. 29. pp 193- 220. Springer Heidelberg, Switzerland 2015. ISBN 978-3-319-14705-5.
- E. Bauzano; M.B. Estebanez; I. Garcia-Morales; V.F. Muñoz. “Collaborative Human-Robot System for HALS Suture Procedures”. *IEEE Systems Journal Special Issue on Systems-related topics in Robotics & Automation for human health*, ISSN: 1932-8184, DOI: 10.1109/JSYST.2014.2299559, January 2014.
- I. Rivas-Blanco, E. Bauzano, M. Cuevas-Rodríguez, P. delSaz-Orozco, V.F. Muñoz. “Force-Position Control for a Miniature Camera Robotic System for Single-Site Surgery”. *IEEE/RSJ International Conference on Robots and Systems (IROS 2013)*, pp. 3065-3070. ISBN: 978-1-4673-6357-0. Tokio, Japón. Noviembre 2013.
- E. Bauzano, P. delSaz-Orozco, I. Garcia-Morales, V.F. Muñoz. “A minimally invasive surgery robotic assistant for HALS–SILS techniques”. *International Journal on Computer Methods and Programs in Biomedicine*, vol. 112, pp. 272-283. Elsevier 2013. DOI: 10.1016/j.cmpb.2013.01.017.

C.2. Research projects and grants

- DPI2016-80391-C3-1-R. Sistema robótico colaborativo para la corrección del Brain-Shift en aplicaciones de neurocirugía endoscópica endonasal. MINECO, 2017-2019. Universidad de



Málaga, Universidad Miguel Hernández y Universidad de Valladolid. Main Researcher: Víctor F. Muñoz Martínez (Universidad de Málaga). Funding: 220.220€. Role: Main researcher.

-DPI2013-47196-C3-1-R "ROBOTIZED HALS". Robot colaborativo para cirugía laparoscópica asistida por la mano. MINECO, 2014-2016 Universidad de Málaga, Universidad Miguel Hernández y Universidad de Valladolid. Main Researcher: Víctor F. Muñoz Martínez (Universidad de Málaga). Funding: 140.000€. Role: Main researcher.

- GLORIA: Global Robotic telescope Intelligent Array. Seventh Framework Programme: FP7-INFRASTRUCTURES-2011-2. GA: 283783. Consorcio 13 participantes, 2011-2014. Coordination researcher: Francisco M. Sánchez Moreno (Universidad Politécnica de Madrid). Funding: 318,221.00. Role: Responsible researcher of Universidad de Málaga.

- Plataforma Robotizada Para La Asistencia En Técnicas Notes/Sils. CICYT. Ministerio de Innovación y Ciencia (DPI2010-21126-C03-01), 2011-2013. Universidad de Málaga, Universidad Miguel Hernández e Instituto CARTIF. Main Researcher: Víctor F. Muñoz Martínez (Universidad de Málaga). Funding: 326.700 €. Role: Main researcher.

- P07-TEP-2897. Robot autónomo para cirugía mínimamente invasiva. Consejería de Innovación, Ciencia y Empresa. Junta de Andalucía, 2007-2011. Main Researcher: Víctor F. Muñoz Martínez (Universidad de Málaga). Funding: 379.618€. Participación: Investigador principal. Role: Main researcher.

- DPI2007-62257. Robot quirúrgico autoguiado para cirugía mínimamente invasiva en solitario. CICYT. Ministerio de Educación y Ciencia, 2007-2010. Main researcher: Víctor F. Muñoz Martínez (Universidad de Málaga). Funding: 218.000€. Role: Main researcher.

C.3. Contracts

- Development of the surgical robot BROCA. Fondo Europeo de Desarrollo Regional (FEDER), Hospital Reina Sofía, Universidad de Córdoba, Tecnalia y Universidad de Málaga. 2013-2015. Responsible researcher of the University of Malaga. 391.222€.

- Sistema de emergencias extra hospitalaria. Contract between ITURRI S.A. and Universidad de Málaga, 2008-2009. Responsible researcher. 55.000€.

- Diseño y desarrollo de la electrónica y de su sistema de control de la cama para prevención de úlceras por presión (patent P200502159). Contract OTRI number: 8.06/5.56.2797. Contract between INDUVAR S.A. and Universidad de Málaga, 2006-2007. Responsible researcher.

- Colaboration for the exploitation of the results of the project FEDER "Goníómetro para caracterización de luminarias y cálculo automático del flujo luminoso". Contract between Centro de las Tecnologías de las Comunicaciones (CETECOM) y Universidad de Málaga, 2006-2007.

- Contract between SENER S.A and Universidad de Málaga for the exploitation of the patents related to the cameraman assistant robot, 2007.

- Study to evaluate the feasibility of the surgical system developed by the research group. Contract between SENER S.A. and the Universidad de Málaga, 2006.

C.4. Patents

- I. Rivas Blanco, V.F. Muñoz Martínez, P. del Saz Orozco Huang, I. García Morales, M. Cuevas Rodríguez, B. Estebanez Campos, E. Bauzano Núñez. "Sistema robótico de asistencia a la cirugía mínimamente invasiva de puerto único con mecanismo de orientación activa capaz de acomodar su movimiento a la anatomía de la pared abdominal". Número de publicación 2547030, Número de solicitud 201400773, Fecha de Concesión 06/06/2016, España. Entidad titular: Universidad de Málaga.
- Enrique Bauzano Núñez, Ma Carmen López Casado, Víctor F. Muñoz Martínez. "Sistema Robótico Quirúrgico y Método para Manejar un Sistema Robótico Quirúrgico". Número de Solicitud PCT/ES2016/070475, Fecha de Solicitud 23/06/2016, Europa. Entidades titulares: Tecnalia, Universidad de Córdoba, Servicio Andaluz de Salud, Universidad de Málaga.
- Enrique Bauzano Núñez, Ma Carmen López Casado, Víctor F. Muñoz Martínez. "Método de Manejo de un Sistema Robótico para Cirugía Mínimamente Invasiva". Número de Solicitud P201630855, Fecha de Solicitud 23/06/2016, España. Entidades titulares: Tecnalia, Universidad de Córdoba, Servicio Andaluz de Salud, Universidad de Málaga.
- Enrique Bauzano Núñez, Ma Carmen López Casado, Víctor F. Muñoz Martínez. "Tool Coupling". Número de Solicitud EP16382294.3, Fecha de Solicitud 23/06/2016, Europa. Entidades titulares: Tecnalia, Universidad de Córdoba, Servicio Andaluz de Salud, Universidad de Málaga.

C.5 Awards

- Patent "Sistema robótico de asistencia a la cirugía mínimamente invasiva capaz de posicionar un instrumento quirúrgico en respuesta a las órdenes de un cirujano sin fijación a la mesa de operaciones ni calibración previa del punto de inserción" granted as the best patent of Universidad de Málaga (INVENTUM 2007).
- Award Andalusian Day to the group "Robot Quirúrgico" 28 de febrero de 2007, for the design of the surgical robot developed under the projects FIS-00/0050-02 and PI-021708.
- Award SPIN-OFF of Universidad de Málaga to the company "Española de Robótica Médica" in 2002 and the Company project "Tecnolex" in 2008.

C.6 Evaluation

- ANEP evaluator in National Projects.
- Associate Editor for Europe in the IEEE International Conference on Intelligent Robots (IROS).

C.7 Management

Position of secretary and director of his Department, director of Secretarial of the OTRI and I+D Centers of the University of Malaga, advisor to the rector for the Campus of International Excellence "Andalucía Tech". Currently, he is academic vice rector of Strategic Projects.