

Part A. PERSONAL INFORMATION

CV date 25/09/2018

First and Family name	JUAN ANTONIO CABRERA CARRILLO		
Social Security, Passport, ID number	25065736Z	Age	54
Researcher numbers	Researcher ID		
	Orcid code	0000-0003-2748-4861	

A.1. Current position

Name of University/Institution	UNIVERSIDAD DE MÁLAGA		
Department	INGENIERÍA MECÁNICA, TÉRMICA Y DE FLUIDOS		
Address and Country	Escuela de Ingenierías Industriales C/ Doctor Ortiz Ramos s/n Campus de Teatinos 29071 Málaga		
Phone number	951952371	E-mail	jcabrera@uma.es
Current position	Titular de Universidad	From	2007
Espec. cód. UNESCO	3317.02;3317.05;3313.15		
Palabras clave	Vehicles, Mechanisms		

A.2. Education

PhD	University	Year
Computer Science	Universidad de Málaga	2004

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

3 years of recognized research (last awarded 2016)
 4 theses directed in the last 10 years
 Publications: 30 (26 in JCR) Number of citations: +636 Average citations / article: 31
 Publications in the first quartile: 10
 Index H = 10 (calculated without taking into account the auto citations)

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

I have 18 years of research work and 25 years of teaching experience at university level. My field of research has always been linked, on one hand, to the study of mechanisms and design of machines and, on the other, to vehicles, specifically the study of tire models, vehicle dynamics and control of active safety systems. I did the doctoral thesis on intelligent braking systems under the supervision of Professor Antonio Simón Mata and I carried out a postdoctoral stay at the Cornell Creative Machines Lab at Cornell University under the supervision of Professor Hod Lipson. Since 1991 I have been linked to the University of Málaga, where I have been a Associate Professor since 2007. I have published more than 50 works in prestigious journals, book chapters and national and international congresses. I have directed 4 doctoral theses and at present I co-direct and direct 5 more theses. I have participated in 7 research projects and in 11 technology transfer contracts. I have published 7 patents, 5 of them in the field of vehicles. I am an active member of the international scientific community, acting as a reviewer for various journals in the field of mechanisms, vehicles and optimization. I am a member of ASME (American Association of Mechanical Engineers) and AEIM (Spanish Association of Mechanical Engineers). I coordinate the Doctoral Program in Mechanical Engineering and Energy Efficiency.

Part C. RELEVANT MERITS

C.1. Publications (JCR)

1.-Title: BIO-INSPIRED SPIKING NEURAL NETWORK FOR NONLINEAR SYSTEMS CONTROL
 Journal: Neural Network (Q1)
 Year: 2018 Vol.: 104 Initial page: 15 Final page:25
 Authors: Pérez, J.; Cabrera, J.A.; Castillo, J.J.; Velasco, J.M.

2.-Title: CAM SYNTHESIS APPLIED TO THE DESIGN OF A CUSTOMIZED MANDIBULAR ADVANCEMENT DEVICE FOR THE TREATMENT OF OBSTRUCTIVE SLEEP APNEA.
 Journal: Mechanism and Machine Theory (Q1)
 Year: 2018 Vol.: 123 Initial page: 153 Final page:165

Authors: Bataller, A.; Cabrera, J.A.; García, M.; Castillo, J.J.; Mayoral, P.

3.-Title: A PROCEDURE FOR DETERMINING TIRE-ROAD FRICTION CHARACTERISTICS USING A MODIFICATION OF THE MAGIC FORMULA BASED ON EXPERIMENTAL RESULTS.

Journal: Sensors (Q1)

Year: 2018 Vol.: 18 Initial page: 1 Final page:17

Authors: Cabrera, J.A.; Castillo, J.J.; Pérez, J.; Velasco, J.M.; Guerra, A.J.; Hernández, P.

4.-Title: REGENERATIVE INTELLIGENT BRAKE CONTROL FOR ELECTRIC MOTORCYCLES.

Journal: Energies (Q2)

Year:2017 Vol.:10 Initial page:1648 Final page: 1664

Authors: Castillo, J.J.; Pérez, J.; Velasco, J.M. and Cabrera, J.A.

5.-Title: OPTIMIZATION OF AN OPTICAL TEST BENCH FOR TIRE PROPERTIES MEASUREMENT AND TREAD DEFECTS CHARACTERIZATION

Journal: Sensors (Q1)

Year: 2017 Vol.: 17 Initial page: 1 Final page: 26

Authors: Castillo, J.J., Cabrera, J. A.; Guerra, A.J. and Postigo, S.

6.-Title: DETERMINING THE MANDIBULAR NORMAL RANGE OF MOTIONS IN YOUNG ADULTS: A GUIDE FOR DIAGNOSIS AND TREATMENT OF PATIENTS WITH MANDIBULAR ADVANCE DEVICES

Journal: Sleep Medicine (Q2)

Year: 2017 Vol.: 40 Initial page: 107 Final page: 107

Authors: García, M.; Mayoral, P.; Vila, J.; Míguez, M.; De la Cruz, J.; Abiker, N.; Bataller, A.; Cabrera, J.A.; Fernández, A.

7.-Title: DETERMINING THE IMPACT OF VERTICAL DIMENSION ON THE MANDIBULAR RANGE OF MOTIONS IN YOUNG ADULTS: A CONSIDERATION FOR THE DESIGN AND THE CONSTRUCTION OF A MANDIBULAR ADVANCEMENT DEVICE

Journal: Sleep Medicine (Q2)

Year: 2017 Vol.: 40 Initial page: 216 Final page: 216

Authors: Mayoral, P., García, M., Bataller, A., Cabrera, J.A., Fernández, A.

8.-Title: A NOVEL ELECTRO-HYDRAULIC BRAKE SYSTEM WITH TIRE-ROAD FRICTION ESTIMATION AND CONTINUOUS BRAKE PRESSURE CONTROL

Journal: IEEE Transaction on Industrial Electronics (Q1)

Year: 2016 DOI: 10.1109/TIE.2015.2494041

Authors: Castillo, J.J., Cabrera, J. A., Guerra, A.J. and Simon, A.

9.-Title: EVOLUTIONARY SYNTHESIS OF MECHANISMS APPLIED TO THE DESIGN OF AN EXOSKELETON FOR FINGER REHABILITATION

Journal: Mechanism and Machine Theory (Q1)

Year: 2016 Vol.: 105 Initial page: 31 Final page: 43

Authors: Bataller, A., Cabrera, J. A.; Clavijo, M. and Castillo, J.J.

10.-Title: EVOLUTIONARY OPTIMIZATION OF A MOTORCYCLE TRACTION CONTROL SYSTEM BASED ON FUZZY LOGIC

Journal: IEEE Transactions on Fuzzy Systems (Q1)

Year: 2015 Vol.: 23 Initial page: 1594 Final page: 1607

Authors: Cabrera, J. A.; Castillo, J.J., Carabias, E. and Ortiz, A.;

11.-Title: ROBUST ROAD CONDITION DETECTION SYSTEM USING IN-VEHICLE STANDARD SENSORS

Journal: Sensor (Q1)

Year: 2015 Vol.: 15 Initial page: 32056 Final page:32078

Authors: Castillo, J.J., Cabrera, J. A., Guerra, A.J. and Carabias, E.

12.-Title: TURNING FUNCTIONS IN OPTIMAL SYNTHESIS OF MECHANISM

Journal: Journal of Mechanical Design (Q2)

Year: 2015 Vol.: 137 Initial page: 62302-1 Final page:62302-10

Authors: Nadal, F.; Cabrera, J. A.; Bataller, A., Castillo, J.J., and Ortiz, A.;

13.-Title: DIMENSIONAL SYNTHESIS OF MECHANISMS USING DIFFERENTIAL EVOLUTION WITH AUTO-ADAPTIVE CONTROL PARAMETERS

Journal: Mechanism and machine theory (Q1)
Year: 2013 Vol.:64 Initial page: 210 Final page: 229
Authors: Ortiz, A.; Cabrera, J. A.; Nadal, F.; Bonilla, A.

14.- Title: DESIGN AND MODELLING OF OMNIBOLA, A SPHERICAL MOBILE ROBOT.
Journal: Mechanics Based Design of Structures and Machines.
Year: 2012 Vol.: 40 Initial page: 383 Final page:399
Authors:Jaimez, M.; Castillo, J.J.; Garcia, F.; Cabrera, J.A.

15.- Title: AN EVOLUTIONARY ALGORITHM FOR PATH SYNTHESIS OF MECHANISMS.
Journal: Mechanism and Machine Theory
Year: 2011 Vol. 46 Initial page: 127 Final page: 141
Authors: Cabrera, J.A.; Ortiz, A.; Nadal, F.; Castillo, J.J.

16.- Title: A COEVOLUTIONARY ALGORITHM FOR TYRE MODEL PARAMETERS IDENTIFICATION.
Journal: Structural and Multidisciplinary Optimization
Year: 2010 Vol.: 41 Initial Page: 749 Final page: 763
Authors: Cabrera, J.A.; Ortiz, A.; Estebanez, B.; Nadal, F.

17.- Title: THE IMMA OPTIMISATION ALGORITHM WITHOUT CONTROL INPUT PARAMETERS.
Journal: Vehicle System Dynamics.
Year: 2009 Vol.: 47 Initial Page: 243 Final Page: 264
Authors: Ortiz, A.; Cabrera, J.A.; Guerra, A.; Simon, A.

18.- Title: MULTIOBJECTIVE CONSTRAINED OPTIMAL SYNTHESIS OF PLANAR MECHANISMS USING A NEW EVOLUTIONARY ALGORITHM.
Journal: Mechanism and Machine Theory
Year: 2007 Vol.: 42 Initial Page: 791 Final Page: 806
Authors: Cabrera, J.A.; Nadal, F.; Munoz, J.P.; Simon, A.

19.- Title: A COMPARATIVE STUDY BETWEEN THE STARTNG VALUE OPTIMIZATION TECHNIQUE AND THE IMMA OPTIMIZATION ALGORITHM.
Journal: Vehicle System Dynamics
Year: 2006 Vol.: 44 Initial Page: 689 Final Page: 718
Authors: Ortiz, A.; Cabrera, J.A.; Guerra, A.; Simon, A.

20.- Title: AN OPTICAL TIRE CONTACT PRESSURE TEST BENCH.
Journal: Vehicle System Dynamics
Year: 2006 Vol.: 44 Initial Page: 207 Final Page: 221
Authors: Castillo, J.J.; Perez, A.; Cabrera, J.A.; Simon, A.

21.- Title: EXPERIENCE WITH THE IMMA TYRE TEST BENCH FOR THE DETERMINATION OF TYRE MODEL PARAMETERS USING GENETIC TECHNIQUES.
Journal: Vehicle System Dynamics
Year: 2005 Vol.: 43 Initial Page: 253 Final Page: 266
Authors: Cabrera, J.A.; Ortiz, A.; Carabias, E.; Simon, A.

22.- Title: ANALYSIS AND EVALUATION OF A TYRE MODEL THROUGH TEST DATA OBTAINED USING THE IMMA TYRE TEST BENCH.
Journal: Vehicle System Dynamics
Year: 2005 Vol.: 43 Initial Page: 241 Final Page: 252
Authors: Ortiz, A.; Cabrera, J.A.; Garcia, F.; Castillo, J.J.; Simon, A.

23.- Title: A FUZZY LOGIC CONTROL FOR ANTILOCK BRAKING SYSTEM INTEGRATED IN IMM_a TYRE TEST BECH
Journal: IEEE Transactions on Vehicular Technology (Q1)
Year 2005 Vol.: 54 Initial page: 1937 Final page: 1949
Authors: Cabrera, J. A.; Ortiz, A.; Castillo, J. J.; Simon, A.

24.- Title: AN ALTERNATIVE METHOD TO DETERMINE THE MAGIC TYRE MODEL PARAMETERS USING GENETIC ALGORITHMS.
Journal: Vehicle System Dynamics
Year: 2004 Vol.: 41 Inital Page: 109 Final Page: 127
Authors: Cabrera, J.A.; Ortiz, A.; Simon, A.

25.- Title: A VERSATILE FLAT TRACK TIRE TESTING MACHINE.

Journal: Vehicle System Dynamics

Year: 2003 Vol.: 40 Initial Page: 271 Final Page: 284

Authors: Cabrera, J.A.; Ortiz, A.; Simon, M.; Garcia, F.; Perez, A.

26.- Title: OPTIMAL SYNTHESIS OF MECHANISMS WITH GENETIC ALGORITHMS.

Journal: Mechanism and Machine Theory

Year: 2002 Vol.: 37 Initial Page: 1165 Final Page: 1177

Authors: Cabrera, J.A.; Simon, A.; Prado, M.

C.2. Research projects and grants

1.- Project number: TRA2015-67920-R

Title: DETERMINACIÓN EN TIEMPO REAL DE LAS CARACTERÍSTICAS DEL CONTACTO NEUMÁTICO-CALZADA MEDIANTE ALGORITMOS BIOINSPIRADOS PARA LA MEJORA DE LA SEGURIDAD ACTIVA EN VEHÍCULOS.

Main researcher: Juan Antonio Cabrera Carrillo

Funding entity: Ministerio de Economía y competitividad. MINECO. From: 01/01/2016 to 31/12/2018

Funding: 118.580 €. Participation: Main researcher

2.- Project number: FEC14-TEP34

Title: EVALUACIÓN DE LA INFLUENCIA DE LOS PARÁMETROS OPERATIVOS DE LOS NEUMÁTICOS EN LA EFICIENCIA ENERGÉTICA. CARACTERIZACIÓN DE LA RESISTENCIA A LA RODADURA Y DE LA ADHERENCIA

Main researcher: Juan Antonio Cabrera Carrillo

Funding entity: Consejería de Economía, Ciencia y Empleo. JJ.AA. From: 01/01/2015 to 31/06/2015

Funding: 10000 €. Participation: Main researcher

3.- Project number: TRA2011-23261

Title: DESARROLLO DE UN SISTEMA AVANZADO DE CONTROL DE TRACCION Y FRENADA PARA MOTOCICLETA

Main researcher: Juan Antonio Cabrera Carrillo

Funding entity: MINISTERIO DE ECONOMÍA y COMPETITIVIDAD. From: 01/01/2012 to 31/12/2014

Funding: 45980 €. Participation: Main researcher

4.- Project number: TRA2010-18930

Title: DESARROLLO DE UN SISTEMA AVANZADO DE CONTROL DE TRACCION Y FRENADA PARA MOTOCICLETA

Main researcher: Juan Antonio Cabrera Carrillo

Funding entity: MINISTERIO DE ECONOMÍA y COMPETITIVIDAD. From: 01/01/2011 to 31/12/2012

Funding: 12100 €. Participation: Main researcher.

5.- Project number: P09-TEP-4553

Title: DESARROLLO Y VALIDACIÓN EXPERIMENTAL EN VEHÍCULO DE UN SISTEMA AVANZADO DE FRENADO

Main researcher: Antonio Simón Mata

Funding entity: JUNTA ANDALUCÍA. From: 01/01/2010 to 31/12/2013

Funding: 95280 €. Participation: Researcher.

6.- Project number: TRA2005-05661

Title: SISTEMA INTELIGENTE DE FRENADO. VALIDACIÓN EXPERIMENTAL EN BANCO DE ENSAYO

Main researcher: Antonio Simón Mata

Funding entity: MINISTERIO DE ECONOMÍA Y COMPETITIVIDAD. From: 01/01/2006 to 31/12/2008

Funding: 91630 €. Participation: Researcher.

C.3. Contracts

1.- Title: DISEÑO DE UN DISPOSITIVO DE AVANCE MANDIBULAR (SEGUNDA FASE PROYECTO)

Entity: ORTOPLUS Responsable: Juan A. Cabrera Carrillo

From: 26/04/2017 to: 26/04/2019. Funding: 24200€. Participation: Main researcher.

2.- Title: ASISTENCIA TÉCNICA EN LA REALIZACIÓN DE ENSAYOS EN APOYO A LA INSPECCIÓN PARA LA HOMOLOGACIÓN DE VEHÍCULOS.

Entity: (Univ. Miguel Hernández) Responsable: Juan A. Cabrera Carrillo
From: 05/04/2016 to: 05/04/2017. Funding: 18000€. Participation: Main researcher.

3.- Title: DESARROLLO, IMPLEMENTACIÓN Y PRUEBAS DE ELEMENTOS AUXILIARES PARA LA OPTIMIZACIÓN DEL COMPORTAMIENTO DINAMICO DE LA CATENARIA RIGIDA Y EVITAR SU EXCESIVO DESGASTE.

Entity: ADIF Responsable: Antonio Simón Mata
From: 19/01/2016 to: 19/04/2017. Funding: 109000€. Participation: Researcher.

4.- Title: REALIZACIÓN DE TRABAJOS EN EL MARCO DEL PROYECTO DE INVESTIGACIÓN Y DESARROLLO TITULADO. DISEÑO DE UN PORTABICICLETAS PARA BOLA DE ENGANCHE

Entity: Hermanos Sánchez Lafuente Responsable: Antonio Simón Mata
From: 01/10/2015 to: 01/07/2015. Funding: 7.820€. Participation: Researcher.

5.- Title: REALIZACIÓN DE TRABAJOS DE INVESTIGACIÓN EN EL PROYECTO DE INVESTIGACIÓN, DESARROLLO E INNOVACIÓN TITULADO "ECASYS: SISTEMA EUROPEO DE CAMBIO DE ANCHO", A DESARROLLAR EN EL MARCO DE LA ORDEN DE INCENTIVOS A EMPRESAS

Entity: TRIA Responsable: Antonio Simón Mata
From: 01/04/2014 to: 01/11/2014. Funding: 30.000€. Participation: Researcher.

6.- Title: REALIZACIÓN DE TRABAJOS DE INVESTIGACIÓN EN EL PROYECTO DE INVESTIGACIÓN, DESARROLLO E INNOVACIÓN TITULADO "STAGE-2: NUEVOS DESARROLLOS EN APARATOS DE CLIMATIZACIÓN DE TODO AIRE EXTERIOR", EN EL MARCO DE LAS AYUDAS CONCEDIDAS POR LA CORPORACIÓN TECNOLÓGICO

Entity: CIATESA Responsable: Antonio Simón Mata
From: 03/03/2014 to: 03/03/2015. Funding: 26.000€. Participation: Researcher.

7.- Title: DISEÑO Y FABRICACIÓN DE BANCO DE ENSAYO PARA REALIZAR PRUEBAS DE FATIGA PARA HOMOLOGACIÓN DE ENGANCHES PARA REMOLQUES

Entity: INSIA Responsable: Antonio Simón Mata
From: 01/10/2003 to: 01/10/2004. Funding: 10.440€. Participation: Researcher.

C.4. Patents

1.-Title: INTRA-ORAL DEVICE FOR MANDIBULAR ADJUSTMENT

Patent number: WO 2017 /149523 AI
From: 08/09/2017 Entity: ORTOPLUS, S.L. Type of protection: International
Authors: García, M.; Cabrera, J. A.; Bataller, A.; Simón, A.; García, J.; Moral, J.; Fernández, A.

2.- Title: INJECTION NOZZLE FOR THE AERODYNAMIC IMPROVEMENT OF VEHICLES

Patent number: WO 2013/098438
From: 04/07/2013 Entity: Universidad de Málaga. Type of protection: International
Authors: García, A.; Del Pino, C.; Cabrera, J. A.; Simon, A.;

3.- Title: AUTOMOBILE BRAKING SYSTEM WITH GRIP PREDICTION AND CONTINUOUS CONTROL OF BRAKING PRESSURE

Patent number: WO 2010/076356
From: 08/07/2010 Entity: Universidad de Málaga. Type of protection: International
Authors: Cabrera, J. A.; Simon, A.; Castillo, J. J.; Ortiz, A.; Garcia, F.; Guerra, A.;

4.- Title: COUPLING CERTIFICATION BENCH

Patent number: WO 2008/031909
From: 15/09/06 Entity: Universidad de Málaga. Type of protection: International
Authors: Simon, A.; Guerra, A.; Cabrera, J. A.; Ortiz, A.; Garcia, F.; Nadal, F.; Castillo, J. J.;

5.- Title: ROBOT ESFERICO.

Patent number: ES 2351457
From: 04/02/11 Entity: Universidad de Málaga. Type of protection: National
Authors: Simon, A.; Ortiz, A.; Cabrera, J. A.; Garcia, F.; Nadal, F.; Castillo, J. J.

6.- Title: BANCO DE ENSAYO DINAMICO DE NEUMATICOS DE SUPERFICIE PLANA.

Patent number: ES 2223253B1

From: 02/12/02 Entity: Universidad de Málaga. Type of protection: National

Authors: Simon, A.; Guerra, A.; Cabrera, J. A.; Ortiz, A.; Garcia, F.; Nadal, F.;Castillo, J. J.;

7.- Title: SISTEMA MEDIDOR DE LA DISTRIBUCIÓN DE PRESIONES NORMALES Y DE LA GEOMETRÍA DEL CONTACTO EN LA HUELLA DE CONTACTO DE NEUMÁTICOS CON SU PISTA DE RODADURA

Patent number: ES 2 222 776 B1

From: 22/12/2005 Entity: Universidad de Málaga. Type of protection: National

Authors: Simon, A.; Guerra, A.; Cabrera, J. A.; Ortiz, A.; Garcia, F.; Nadal, F.;Castillo, J. J.;

C.5, C.6, C.7... (e. g., Institutional responsibilities, memberships of scientific societies...)

- Coordinator of the Doctorate Program MECHANICAL ENGINEERING AND ENERGY EFFICIENCY.
Web: <http://www.uma.es/doctorado-imee/>
- UMA Racing Team Tutor for the MOTOSTUDENT International competition 2010, 2012, 2016 and 2018.
- UMA Racing Team has been the Winner of the Best Motostudent Electric Category 2018.