CURRÍCULUM VÍTAE NORMALIZADO

Jorge Villagrá Serrano

Generated from: Editor CVN de FECYT

Date of document: 18/03/2021

v 1.4.3

1337f5323f494a243225c4a6470d91ec

GOBIERNO DE ESPAÑA
MINISTERIO DE CIENCIA E INNOVACIÓN

FECYT FUNDACIÓN ESPAÑOLA PARA LA CIENCIA Y LA TECNOLOGÍA

Summary of CV

This section describes briefly a summary of your career in science, academic and research; the main scientific and technological achievements and goals in your line of research in the medium -and long- term. It also includes other important aspects or peculiarities.

Jorge Villagra graduated in Industrial Engineering at the Universidad Politécnica de Madrid in 2002. He received his PhD in Real-Time Computer Science, Robotics and Automatic Control at the École des Mines de Paris (France) in 2006. He was first granted with a 3 years CIFRE Program in PSA-Peugeot-Citroën and then with a post-doctoral fellowship at the Joint Research Unit INRIA-Mines ParisTech (France). The results of the PhD were awarded with the Prize for the Best dissertation in Automatic Control in France in 2006. From 2007 to 2009 he held a position of Visiting Professor at the University Carlos III (Spain). He then received a 3 year JAE-Doc fellowship at the AUTOPIA Program in the Centre for Automation and Robotics (CSIC, Spain), where he spent one additional year funded by a research contract. From 2013 until 2016 he led the Department of ADAS and Autonomous Driving Systems at Ixion Industry and Aerospace SL, where he also coordinated the activities for the EU R&D projects. He is currently leading AUTOPIA Program at the Centre for Automation and Robotics (CSIC) since October 2016.

He has developed his research in 6 different entities with a very intense activity in proposal preparation and project management. As a matter of fact, he has been involved in 40 projects -1 EU FP6, 2 EU FP7, 9 EU H2020, 1 international, 6 private contracts, 14 national projects and 4 regional/local projects. He is or has been IP of 22 of these projects (10 European, 10 national). In the last 5 years, he has raised 2.05M€ in competitive European and national calls and R&D contracts. He has organized and participated in several international first-range demonstration events. He has contributed to 2 patents (one of them licensed by PSA) with 2 different research groups.

He has been granted in highly competitive calls (JAE-Doc 2009, Ramon y Cajal 2016), and has been awarded with the best entrepreneurship project in Passion IE contest -organized by Accenture and IE Bussiness School. Organizer of 3 international and 2 national workshops. Member of International Program Committees of over 10 conferences in the last 5 years. Reviewer of more than 20 journals. Supervisor of 18 Master thesis and 4 PhD thesis (1 already finished in 2019, 3 to be defended in 2022). Invited speaker in a large number of academic and professional events, including the Spanish delegation of scientific excellence in the event "Networking Nations", organized by the Royal Society in London (2012). He is also a regular reviewer for ANEP and for the European Commission in projects related to either Automated Road Transport or Internet of Things.

He has published over 100 papers in peer-reviewed international journals and conferences on connected and automated driving, data-driven or model-free control and new probabilistic approaches for embedded components in autonomous vehicles.

General quality indicators of scientific research

This section describes briefly the main quality indicators of scientific production (periods of research activity, experience in supervising doctoral theses, total citations, articles in journals of the first quartile, H index...). It also includes other important aspects or peculiarities.

Total number of citations: 2041 (Google Scholar)
Average citations/year in the last 5 years: 236 (Google Scholar)
Number of publications in the first quartile (Q1): 24
Number of publications in the first decile (D1): 2
Indexed journal publicaciones: 39
H index: 24 (Google Scholar)
Number of supervised PhD:1 (Antonio Artuñedo, 2019)
Number of granted six-year quality research periods (sexenios): 2, until 2017

Jorge Villagrá Serrano

Surname(s):	**Villagrá Serrano**
Name:	**Jorge**
ORCID:	**0000-0002-3963-7952**
ScopusID:	**24923791700**
Date of birth:	**02/03/1976**
Gender:	**Male**
Nationality:	**Spain**
Country of birth:	**Spain**
Aut. region/reg. of birth:	**Community of Madrid**
Contact province:	**Madrid**
City of birth:	**Madrid**
Contact address:	**Centro de Automática y Robótica**
Rest of contact address:	**Ctra. de Campo Real, km. 0,200**
Postcode:	**28500**
Contact country:	**Spain**
Contact aut. region/reg.:	**Community of Madrid**
Contact city:	**Madrid**
Land line phone:	**(+34) 918711900 - 286**
Email:	**jorge.villagra@csic.es**
Mobile phone:	**(+34) 679001078**

Current professional situation

Employing entity: Consejo Superior de Investigaciones Científicas

Type of entity: State agency

Department: Programa Autopía, CENTRO DE AUTOMATICA Y ROBOTICA

Professional category: Científico Titular

Start date: 01/03/2017

Type of contract: Civil servant

Primary (UNESCO code): 120304 - Artificial intelligence; 120702 - Control systems; 331102 - Control engineering; 331700 - Motor vehicle technology; 332700 - Transportation systems technology

Performed tasks: * Head of Autopia Program - Connected and automated vehicles * Manager of a team of 6 researchers * Scientific direction of the group * Fundraising and project management * Leading an initiative to develop a technological and industrial hub on automated and connected driving in Arganda del Rey

Previous positions and activities

	Employing entity	Professional category	Start date
1	PSA Peugeot Citroën	Research engineer	01/10/2006
2	Ixion Industry & Aerospace SL	Head of Automotive Business Unit	14/02/2013
3	Consejo Superior de Investigaciones Científicas	Researcher	01/11/2012

	Employing entity	Professional category	Start date
4	Universidad Politécnica de Madrid	Researcher	01/10/2012
5	Consejo Superior de Investigaciones Científicas	JAE Doc research fellow	01/10/2009
6	Universidad Carlos III de Madrid	Visiting professor	01/11/2007
7	Joint Research Unit LaRA (INRIA Rocquencourt/Ecole des Mines de Paris)	Research fellow	01/01/2007
8	PSA Peugeot Citroën	PhD candidate	01/10/2003
9	École des Mines de Paris	Research engineer	01/10/2002

1 **Employing entity:** PSA Peugeot Citroën **Type of entity:** Technological Centre
Department: Direction de Recherche en Innovation Automobile
City employing entity: Vélizy, Île de France, France
Professional category: Research engineer **Educational Management (Yes/No):** No
Start-End date: 01/10/2006 - 31/12/2106 **Duration:** 3 months
Type of contract: Temporary employment contract

2 **Employing entity:** Ixion Industry & Aerospace SL
City employing entity: Madrid, Community of Madrid, Spain
Professional category: Head of Automotive Business Unit **Educational Management (Yes/No):** No
Phone: (+34) 914401874 **Email:** jvillagra@ixion.es
Start-End date: 14/02/2013 - 31/07/2016 **Duration:** 3 years - 5 months - 16 days
Type of contract: Permanent employment contract
Primary (UNESCO code): 120304 - Artificial intelligence; 330113 - Instrumentation (aviation); 330118 - Stability and control; 330417 - Real-time systems; 330790 - Microelectronics; 331101 - Automation technology; 331102 - Control engineering; 331702 - Automobiles; 331710 - Traffic engineering
Identify key words: Control systems, guide systems; Robotics; Intelligent transport system; Aerial robots; Autonomic robots; System identifications; Robust control; Network control; Real time control; Intelligent control; Laser for perception; Computer vision
Field of management activity: Entidad empresarial

3 **Employing entity:** Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
Department: Programa Autopía, CENTRO DE AUTOMATICA Y ROBOTICA
City employing entity: Arganda del rey, Community of Madrid, Spain
Professional category: Researcher **Educational Management (Yes/No):** No
Phone: (+34) 914401833 **Fax:** (+34) 913045410 **Email:** jvillagra@ixion.es
Start-End date: 01/11/2012 - 31/07/2013 **Duration:** 9 months
Type of contract: Temporary
Dedication regime: Full time
Primary (UNESCO code): 120304 - Artificial intelligence; 120702 - Control systems; 331102 - Control engineering; 331700 - Motor vehicle technology; 332700 - Transportation systems technology
Performed tasks: - Theoretical and applied research, including including nonlinear and optimal control, estimation and identification techniques using both deterministic and artificial intelligence approaches. - Particularly interested in applying these methodologies in the area of Intelligent Transportation Systems and studying the interaction between networked agents of variable granularity. - Research project preparation and management. - PhD and MSc students supervision
Identify key words: Control systems, guide systems; Controllability and obervability; Fuzzy sets and logic; Non linear programming; Intelligent transport system; Robotics; System identifications; Robust

control; Systems based on agents; Control by learning; Real time control; Optimal control; Expert control; Intelligent control
Field of management activity: Public Research Body

4 **Employing entity:** Universidad Politécnica de Madrid **Type of entity:** University
Department: CENTRO DE AUTOMATICA Y ROBOTICA, Escuela Técnica Superior de Ingenieros Industriales
City employing entity: Arganda del Rey, Community of Madrid, Spain
Professional category: Researcher **Educational Management (Yes/No):** No
Phone: (+34) 918711900 - 286 **Fax:** (+34) 918717050
Start-End date: 01/10/2012 - 31/10/2012 **Duration:** 1 month
Type of contract: Temporary employment contract

5 **Employing entity:** Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
Department: Programa Autopía, CENTRO DE AUTOMATICA Y ROBOTICA
City employing entity: Arganda del Rey, Community of Madrid, Spain
Professional category: JAE Doc research fellow
Start-End date: 01/10/2009 - 30/09/2012 **Duration:** 3 years
Type of contract: Grant-assisted student (pre or post-doctoral, others)

6 **Employing entity:** Universidad Carlos III de Madrid **Type of entity:** University
Department: Departamento de Ingeniería de Sistemas y Automática
City employing entity: Leganés, Community of Madrid, Spain
Professional category: Visiting professor **Educational Management (Yes/No):** Yes
Start-End date: 01/11/2007 - 30/09/2009 **Duration:** 1 year - 11 months
Type of contract: Temporary employment contract
Field of management activity: University

7 **Employing entity:** Joint Research Unit LaRA (INRIA Rocquencourt/Ecole des Mines de Paris)
Department: Centre de Robotique, Ecole des Mines de Paris
City employing entity: Paris, Île de France, France
Professional category: Research fellow **Educational Management (Yes/No):** No
Start-End date: 01/01/2007 - 31/08/2008 **Duration:** 1 year - 8 months
Type of contract: Grant-assisted student (pre or post-doctoral, others)

8 **Employing entity:** PSA Peugeot Citroën **Type of entity:** R&D Centre
Department: Direction de Recherche en Innovation Automobile
City employing entity: Vélizy, Île de France, France
Professional category: PhD candidate **Educational Management (Yes/No):** No
Start-End date: 01/10/2003 - 30/09/2006 **Duration:** 3 years
Type of contract: Temporary employment contract

9 **Employing entity:** École des Mines de Paris **Type of entity:** University
City employing entity: Paris, Île de France, France
Professional category: Research engineer
Start-End date: 01/10/2002 - 30/09/2003 **Duration:** 1 year
Type of contract: Grant-assisted student (pre or post-doctoral, others)

Education

University education

1st and 2nd cycle studies and pre-Bologna degrees

University degree: Higher degree
Name of qualification: Ingeniero Industrial
City degree awarding entity: Madrid, Community of Madrid, Spain
Degree awarding entity: Universidad Politécnica de Madrid **Type of entity:** University
Date of qualification: 01/07/2002

Doctorates

Doctorate programme: Informática en Tiempo Real, Robótica y Automática
Degree awarding entity: École des Mines de Paris **Type of entity:** University
City degree awarding entity: Paris, France
Date of degree: 11/10/2006
Thesis title: Conception optimisée de lois de commande et de paramètres pour les organes de liaison au sol
Thesis director: Brigitte d'Andréa-Novel
Obtained qualification: Mention très honorable avec félicitations (Sbresaliente Cum Laude)
Special doctorate award: Yes

Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
English		C1	C1	C1	C1
French		C1	C1	C1	C1

Teaching experience

General teaching experience

1 **Type of teaching:** Official teaching
Name of the course: Interacción Humano-Robot
Type of programme: Master's degree **Type of teaching:** In person theory
Type of subject: Core
University degree: Master en Automática y Robótica
Frequency of the activity: 3
Start date: 01/12/2016 **End date:** 12/10/2018

Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 2
Entity: Universidad Politécnica de Madrid **Type of entity:** University
City of entity: Madrid, Community of Madrid, Spain
Subject language: Spanish

2 **Type of teaching:** Official teaching
Name of the course: Control e Inteligencia Artificial
Type of programme: Master's degree **Type of teaching:** In person theory
Type of subject: Core
University degree: Master en Ingeniería de Vehículos Autónomos y Conectados
Start date: 12/12/2017 **End date:** 10/01/2018
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 6
Entity: Instituto Universitario de Investigación del Automóvil **Type of entity:** University Research Institute
City of entity: Madrid, Community of Madrid, Spain
Subject language: Spanish

3 **Type of teaching:** Official teaching
Name of the course: Automática
Related skills: Computer Integrated Manufacturing
Type of programme: Engineering **Type of teaching:** In person theory
Type of subject: Obligatory
University degree: Ingeniero Industrial
Frequency of the activity: 2
Start date: 01/02/2008 **End date:** 30/06/2009
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 6
Entity: Universidad Carlos III de Madrid **Type of entity:** University
Faculty, institute or centre: Escuela Politécnica Superior
Department: Ingeniería de Sistemas y Automática
City of entity: Madrid, Community of Madrid, Spain
Subject language: Spanish

4 **Type of teaching:** Official teaching
Name of the course: Señales y Sistemas
Related skills: Systems Theory
Type of teaching: In person theory
Type of subject: Obligatory
University degree: Ingeniero Técnico Industrial Especialidad Electricidad (Electrónica Industrial)
Frequency of the activity: 1
Start date: 01/10/2008 **End date:** 30/01/2009
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 5
Entity: Universidad Carlos III de Madrid **Type of entity:** University
Faculty, institute or centre: Escuela Politécnica Superior
Department: Ingeniería de Sistemas y Automática
City of entity: Leganés, Community of Madrid, Spain
Subject language: Spanish

5 **Type of teaching:** Official teaching
Name of the course: Regulación Automática
Related skills: Control engineering
Type of programme: Technical engineering **Type of teaching:** Laboratory work
Type of subject: Optional
University degree: Ingeniero Técnico Industrial Especialidad Electricidad (Intensificación Automática y Electrónica)
Frequency of the activity: 1
Start date: 01/10/2008 **End date:** 01/01/2009
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 4
Entity: Universidad Carlos III de Madrid **Type of entity:** University
Faculty, institute or centre: Escuela Politécnica Superior
Department: Ingeniería de Sistemas y Automática
City of entity: Leganés, Community of Madrid, Spain
Subject language: Spanish

6 **Type of teaching:** Official teaching
Name of the course: Sistemas Informáticos
Related skills: Software engineering
Type of programme: Engineering **Type of teaching:** Laboratory work
Type of subject: Optional
University degree: Ingeniería en Informática
Frequency of the activity: 1
Start date: 01/02/2008 **End date:** 30/06/2008
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 4
Entity: Universidad Carlos III de Madrid **Type of entity:** University
Faculty, institute or centre: Escuela Politécnica Superior
Department: Ingeniería de Sistemas y Automática
City of entity: Leganés, Community of Madrid, Spain
Subject language: English

7 **Type of teaching:** Official teaching
Name of the course: Informática en tiempo real
Related skills: Real-time computer science
Type of programme: Engineering **Type of teaching:** Practical work (classroom-problems)
Type of subject: Obligatory
University degree: Ingeniero en Informática
Frequency of the activity: 1
Start date: 01/10/2007 **End date:** 31/01/2008
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 4
Entity: Universidad Carlos III de Madrid **Type of entity:** University
Faculty, institute or centre: Escuela Politécnica Superior
Department: Ingeniería de Sistemas y Automática
City of entity: Leganés, Community of Madrid, Spain
Subject language: Spanish

8 **Type of teaching:** Official teaching
Name of the course: Mécatronique
Related skills: Control design of mechanical systems
Type of programme: Engineering
Type of subject: Obligatory
University degree: Ingenieur des Mines
Frequency of the activity: 3
Start date: 01/02/2004 **End date:** 30/06/2006
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 40
Entity: Ecole des Mines de Paris **Type of entity:** University
Faculty, institute or centre: Centre de Robotique
Department: Centre de Robotique
City of entity: Paris, Île de France, France
Subject language: French

Experience supervising doctoral thesis and/or final year projects

1 **Project title:** Estrategias de toma de decision adaptativa y cooperativa para conducción autónoma en entornos urbanos
Type of project: Doctoral thesis
Entity: Universidad Politécnica de Madrid **Type of entity:** University
City of entity: Madrid, Community of Madrid, Spain
Student: Antonio Artuñedo García
Date of reading: 01/05/2019

2 **Project title:** Implementación de una rejilla probabilística de ocupación para la conducción autónoma
Type of project: End of course project
Entity: Universidad Politécnica de Madrid **Type of entity:** University
City of entity: Madrid, Community of Madrid, Spain
Student: Jorge Arellano Subias
Date of reading: 01/04/2019

3 **Project title:** Estimación del riesgo de conducción en entornos urbanos complejos
Type of project: End of course project
Entity: Universidad Politécnica de Madrid **Type of entity:** University
City of entity: Madrid, Community of Madrid, Spain
Student: Inés Portolés García
Date of reading: 05/10/2018

4 **Project title:** Mapeado de carreteras para conducción autónoma usando visión artificial y OpenStreetMaps
Type of project: End of course project
Co-director of thesis: Fernando García
Entity: Universidad Carlos III de Madrid **Type of entity:** University
City of entity: Leganés, Community of Madrid, Spain
Student: Pablo González González
Date of reading: 02/10/2018

5 **Project title:** Detección de objetos mediante LiDAR para conducción autónoma
Type of project: End of course project
Co-director of thesis: Antonio Artuñedo Garcia
Entity: Universidad Politécnica de Madrid **Type of entity:** University
City of entity: Madrid, Community of Madrid, Spain
Student: Marlon Xavier Pérez Calvetti
Date of reading: 01/03/2018

6 **Project title:** Validación de un modelo para la estimación del riesgo en intersecciones con vehículos conectados
Type of project: MSc. Thesis
Entity: Instituto Universitario de Investigación del Automóvil **Type of entity:** University Research Institute
Student: Manuel Perarnau
Date of reading: 26/10/2017

7 **Project title:** Modos alternativos de transporte: Dynamic Ridesharing
Type of project: MSc. Thesis
Entity: Universidad Carlos III de Madrid **Type of entity:** University
Student: Pablo Grandas Aguado
Date of reading: 25/09/2014

8 **Project title:** Desarrollo de funcionalidades avanzadas para un simulador de maniobras cooperativas entre vehículos
Type of project: MSc. Thesis
Entity: Universidad Carlos III de Madrid **Type of entity:** University
Student: Antonio Javier Artuñedo García
Date of reading: 02/06/2014

9 **Project title:** Development of a simulation platform for cooperative maneuvers among vehicles
Type of project: End of course project
Entity: Universidad Smón Bolivar **Type of entity:** University
City of entity: Caracas, Venezuela
Student: Antonio Gómez Fajardo
Date of reading: 09/02/2012

10 **Project title:** Implementation of the lateral control of a mass-produced vehicle with electric power steering
Type of project: End of course project
Entity: Universidad Carlos III de Madrid **Type of entity:** University
City of entity: Leganés, Community of Madrid, Spain
Student: Esteban de Torres Ribera
Date of reading: 27/07/2011

11 **Project title:** Evaluation and validation of virtual sensors for vehicle dynamics
Type of project: End of course project
Entity: Ecole Nationale Supérieire de Techniques Avancées **Type of entity:** University
City of entity: Paris, Île de France, France
Student: Yunqing Zheng
Date of reading: 03/08/2006

12 **Project title:** Validation of vehicle models for control systems
Type of project: End of course project
Co-director of thesis: Brigitte d'Andréa-Novel
Entity: Ecole des Mines de Paris **Type of entity:** University Department
City of entity: Paris, Île de France, France
Student: Matthieu Bössiger
Date of reading: 30/06/2006

13 **Project title:** Validation of vehicle models for control systems
Type of project: End of course project
Co-director of thesis: Brigitte d'Andréa-Novel
Entity: Ecole des Mines de Paris **Type of entity:** University Department
City of entity: Paris, Île de France, France
Student: Quentin Devouge
Date of reading: 30/06/2006

14 **Project title:** Slope estimation and sensitivity analysis
Type of project: End of course project
Co-director of thesis: Loïc Fradin
Entity: Ecole des Mines de Paris **Type of entity:** University Department
City of entity: Paris, Île de France, France
Student: Marie Partarrieu
Date of reading: 30/06/2005

Other activities/achievements not included above

1 **Description of the activity:** Articulo "El caballo, el coche y la inteligencia artificial: historia de una relación peculiar"
Organising entity: El Confidencial
End date: 13/12/2018

2 **Description of the activity:** Jornada Ciencia y Movilidad Urbana Sostenible - Ponencia sobre Sistemas autónomos de movilidad
Organising entity: Centro Nacional de Investigaciones Metalúrgicas **Type of entity:** State agency
End date: 03/12/2018

3 **Description of the activity:** Seminar "Towards safe and human-like decision-making for autonomous vehicles in urban environments"
City of activity: Grenoble, Rhône-Alpes, France
Organising entity: INRIA Grenoble **Type of entity:** Public Research Body
End date: 26/11/2018

4 **Description of the activity:** Mesa redonda "La seguridad en los nuevos modelos", dentro de la Jornada "El lustro de la movilidad sostenible y segura"
Organising entity: Capital Radio
End date: 21/11/2018

5 **Description of the activity:** Jornada Internet de las Cosas - Ponencia sobre conducción autónoma: retos y oportuniades
City of activity: Madrid, Community of Madrid, Spain
Organising entity: CONSEJO GENERAL DE LA ABOGACIA ESPAÑOLA
End date: 06/11/2018

6 **Description of the activity:** Jornada Usos y aplicaciones de la inteligencia artificial - Ponencia sobre conducción autónoma: mitos, desafíos y oportunidades en torno a la IA
City of activity: Madrid, Community of Madrid, Spain
Organising entity: Fundación para la Investigación sobre el Derecho y la Empresa **Type of entity:** Foundation
End date: 25/10/2018

7 **Description of the activity:** S-Moving Forum - Mesa redonda sobre Casos de Exito de Movilidad inteligente
Organising entity: AYUNTAMIENTO DE MALAGA
End date: 18/10/2018

8 **Description of the activity:** IV Foro innovadores en la Tercera Revolución Digital - MOB Day: conectividad, seguridad y datos en la nueva movilidad inteligente
City of activity: Madrid, Community of Madrid, Spain
Organising entity: Fundación PONS **Type of entity:** Foundation
End date: 10/10/2018

9 **Description of the activity:** Diálogos Ciencia y Derecho - Ponencia sobre Coches autónomos. Retos, oportunidades y barreras legislativas
City of activity: Madrid, Community of Madrid, Spain
Organising entity: Fundación para la Investigación sobre el Derecho y la Empresa **Type of entity:** Foundation
End date: 23/05/2018

10 **Description of the activity:** Ciclo de conferencias sobre Inventos que van a cambiar el mundo - Ponencia titulada "Hacia la conducción autónoma: retos y oportunidades"
City of activity: Zaragoza, Aragon, Spain
Organising entity: Ibercaja **Type of entity:** Business
End date: 12/02/2018

11 **Description of the activity:** AECLab Workshop: Thinking of mobility - Thinking on the road - Ponencia titulada "Hacia un sistema de decisión intuitivo en los vehículos automatizados"
City of activity: Madrid, Community of Madrid, Spain
Organising entity: ASOCIACION ESPAÑOLA DE LA CARRETERA
End date: 18/09/2017

12 **Description of the activity:** Jornadas UPM-Fuerzas Armadas - Ponencia sobre Conducción automatizada y conectada: retos y oportunidades
City of activity: Madrid, Community of Madrid, Spain
Organising entity: UPM-Fuerzas Armadas
End date: 03/04/2017

13 **Description of the activity:** Cooperative and automated driving: The only way towards autonomous mobility-on-demand systems?
Organising entity: Universidad Miguel Hernández de Elche **Type of entity:** University

End date: 29/03/2017

14 **Description of the activity:** Annual Meeting: Workshop on Autonomous vehicles - Ponencia titulada "Towards intuitive decision-making in automated vehicles"
City of activity: Madrid, Community of Madrid, Spain
Organising entity: Centro de Electrónica Industrial CEI **Type of entity:** University Centres and Structures and Associated Bodies
End date: 23/03/2017

15 **Description of the activity:** XX Forum de la Automoción Española - Ponencia sobre el Programa Autopia
City of activity: Madrid, Community of Madrid, Spain
Organising entity: ASEPA **Type of entity:** Associations and Groups
End date: 09/03/2017

16 **Description of the activity:** Dialogo 2017 - Ponencia "Hacia un sistema de decisión intuitivo en los vehículos automatizados"
City of activity: Leon, Castile and León, Spain
Organising entity: AUVSI Spanish Chapter **Type of entity:** Associations and Groups
End date: 09/02/2017

17 **Description of the activity:** Jornadas TechFest - Ponencia "Hacia la conducción autónoma: retos y oportunidades"
City of activity: Leganés, Community of Madrid, Spain
Organising entity: Universidad Carlos III de Madrid **Type of entity:** University
End date: 11/02/2016

18 **Description of the activity:** Refereee of IEEE Transactions on Intelligent Transportation Systems, IEEE Transactions on Automation Science and Engineering, Control Engineering Practice, Transportation Research Board, Public Transportation, Transportation Research Part C, IEEE Transactions on Human-Machine Systems, Robotics and Autonomous Systems, International Journal of Robust and Nonlinear Control, IEEE Transactions on Vehicular Technology, IEEE Transactions on Control Systems Technology, Computers and Electronics in Agriculture, Vehicle System Dynamics, Asian Journal of Control, International Journal on Vehicle Autonomous Systems, Sensors, Revista Iberoamericana de Automática e Informática Industrial, International Conference on Robotics and Automation, IFAC World Congress, IEEE Intelligent Vehicles Symposium,IEEE Mediterranean Conference on Control and Automation, IEEE Conférence Internationale Francophone d'Automatique, IFAC European Control Conference, IEEE Mediterranean Control Conference, IEEE Vehicular Technology Conference, Multi-conference on Systems, Signals and Devices, Journées Nationales d'Automatique

Scientific and technological experience

Research and development groups/teams

1 **Name of the group:** Departamento I+D
Name of principal investigator: Jorge Villagra Serrano
Type of collaboration: Co-authorship of projects and their development
City of group: Madrid, Community of Madrid, Spain
Affiliation entity: IXION Industry & Aerospace **Type of entity:** Business
Identify key words: Intelligent transport system; Robotics; Control architectures
Start date: 02/2013 **Duration:** 2 years - 9 months

2 **Name of the group:** Programa Autopía, Centro de Automática y Robótica
Name of principal investigator: Ricardo García Rosa
Type of collaboration: Co-authorship of projects and their development
City of group: Arganda del Ray, Community of Madrid, Spain
Affiliation entity: Centro mixto UPM-CSIC
Identify key words: Artificial intelligence; Intelligent transport system; Intelligent vehicles
Start date: 10/2009 **Duration:** 3 years - 8 months

3 **Name of the group:** RoboticsLab
Name of principal investigator: Carlos Balaguer
Type of collaboration: Co-authorship of projects and their development
City of group: Leganés, Community of Madrid, Spain
Affiliation entity: Universidad Carlos III de Madrid **Type of entity:** University
Identify key words: Robotics; Automatization and instrumentation
Start date: 11/2007 **Duration:** 2 years

4 **Name of the group:** Direction de Recherche en Innovation Automobile (DRIA), Groupe Mechatronique
Name of principal investigator: Franck Guillemard
Type of collaboration: Co-authorship of projects and their development
City of group: Vélizy, Île de France, France
Affiliation entity: PSA Peugeot Citroën
Identify key words: Dynamics of a rigid body; Control of mechanical systems; Controlator designs; System modeled
Start date: 10/2003 **Duration:** 3 years - 2 months

5 **Name of the group:** Centre de Robotique (CAOR)
Name of principal investigator: Arnaud de la Fortelle
Type of collaboration: Co-authorship of projects and their development
City of group: Paris, Île de France, France
Affiliation entity: Ecole des Mines de Paris **Type of entity:** University
Identify key words: Noholonomology systems; Control of mechanical systems; Intelligent transport system; Non-linear systems; Perception; Virtual reality
Start date: 10/2002 **Duration:** 5 years - 6 months

Scientific or technological activities

R&D projects funded through competitive calls of public or private entities

1 **Name of the project:** IoSense - Flexible FE/BE Sensor Pilot Line for the Internet of Everything
Entity where project took place: Ixion Industry & Aerospace SL
City of entity: Madrid, Community of Madrid, Spain
Funding entity or bodies:
Comisión Europea **Type of entity:** ECSEL PRogram
City funding entity: Madrid, Community of Madrid, Spain

Type of participation: Principal investigator
Name of the programme: ECSEL-15-2015
Code according to the funding entity: 692480
Start-End date: 01/06/2016 - 31/05/2109
Total amount: 303.562 €
Relevant results: IoSense will increase the manufacturing capacity of sensor/MEMS components in the involved pilot lines by factor of 10 while reducing manufacturing cost and time by 30%. IoSense is designed to enable focused development work on technological and application oriented tasks combining with market orientation.

2 **Name of the project:** NewControl: Integrated, Fail-Operational, Cognitive Perception, Planning and Control Systems for Highly Automated Vehicles
Geographical area: European Union
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Herbert Roedig
Funding entity or bodies:
Comisión Europea **Type of entity:** ECSEL JU
City funding entity: Madrid, Community of Madrid, Spain

Type of participation: Principal investigator
Name of the programme: ECSEL-2018-2-RIA
Code according to the funding entity: 826653
Start-End date: 01/04/2019 - 31/12/2022 **Duration:** 3 years
Total amount: 358.174 €
Relevant results: NewControl will develop virtualized platforms for vehicular subsystems that are essential to highly automated driving (realizing functions such as perception, cognition and control), so as to enable mobility-as-a-service for next generation highly automated vehicles. Its overarching goal is to provide an industrially calibrated trajectory towards increased user-acceptance of automated control functions, through an approach that is centered on the premise of safety by design.

3 **Name of the project:** SEGVAUTO 4.0: SEGuridad de los Vehículos AUTOmóviles, para una movilidad inteligente, sostenible, segura e integradora
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Luis Martinez
Funding entity or bodies:

Comunidad de Madrid **Type of entity:** Public Body
City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 01/01/2019 - 31/12/2022
Total amount: 45.000 €

4 **Name of the project:** CASTOR: secured CollAboration-baSed moTiOn pRediction for automated vehicles
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain
Nº of researchers: 2
Funding entity or bodies:
Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 01/05/2020 - 30/04/2022
Total amount: 26.773,43 €

5 **Name of the project:** PRYSTINE: Programmable Systems for Intelligence in Automobiles
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Herbert Roedig
Funding entity or bodies:
Comisión Europea **Type of entity:** ECSEL Program
City funding entity: Madrid, Community of Madrid, Spain

Type of participation: Principal investigator
Name of the programme: ECSEL-2017-2
Code according to the funding entity: 783190
Start-End date: 01/05/2018 - 30/04/2021 **Duration:** 3 years
Total amount: 364.808 €
Relevant results: PRYSTINE will realize Fail-operational Urban Surround Perception (FUSION) which is based on robust Radar and LiDAR sensor fusion and control functions, to enable safe automated driving in urban and rural environments. The project targets are to develop and validate new, fail operational HW/SW platforms, high performance and dependable perception (sensor fusion on different levels) and AI-based decision-making algorithms – the functional safety methodologies are applied from the chip to the system level.

6 **Name of the project:** SECREDAS: Cyber Security for Cross Domain Reliable Dependable Automated Systems
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain
Funding entity or bodies:
Comisión Europea **Type of entity:** ECSEL Program
City funding entity: Madrid, Community of Madrid, Spain

Type of participation: Principal investigator
Name of the programme: ECSEL-2017-2
Code according to the funding entity: 783119
Start-End date: 01/05/2018 - 30/04/2021 **Duration:** 3 years
Total amount: 292.118 €

Relevant results: SECREDAS aims to develop and validate multi-domain architecting methodologies, reference architectures & components for autonomous systems, combining high security and privacy protection while preserving functional-safety and operational performance.

7 **Name of the project:** Cogdrive: Navegación de inspiración cognitiva para conducción autónoma
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jorge Villagra Serrano
Type of participation: Co-ordinator
Name of the programme: Retos I+D
Code according to the funding entity: DPI2017-86915-C3-1-R
Start-End date: 01/01/2018 - 31/12/2020 **Duration:** 3 years
Total amount: 95.000 €
Relevant results: El proyecto COGDRIVE pretende desarrollar un sistema de decisión de inspiración cognitiva, con capacidad de emular la intuición humana en diferentes entornos de conducción. Para ello, el trabajo a desarrollar se articulará en torno a tres de los mayores desafíos a los que se enfrenta la conducción autónoma y conectada: (i) la interacción hombre–máquina en la toma de decisiones; (ii) la robustez a la gran incertidumbre y variabilidad de las escenas de conducción; (iii) la fiabilidad y seguridad de los sistemas desarrollados.

8 **Name of the project:** RETEVI-II: Red Temática en Vehículos Inteligentes
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain
Funding entity or bodies:
Ministerio de Ciencia e Innovación. Universidades **Type of entity:** Plan Nacional
City funding entity: Madrid, Community of Madrid, Spain

Type of participation: Principal investigator
Name of the programme: Acciones de dinamización “Redes de Excelencia”
Code according to the funding entity: TRA2017?90620?REDT
Start-End date: 01/07/2018 - 30/06/2020
Total amount: 9.000 €

9 **Name of the project:** UbiMFC: The ubiquitous value of model-free control: from machine-tool applications to cognition inspired mechanisms for artificial decision-making
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jorge Villagrá Serrano
Nº of researchers: 4
Funding entity or bodies:
CSIC-CNRS **Type of entity:** Public Research Body

Start-End date: 01/05/2019 - 31/12/2019
Total amount: 9.930 €

10 **Name of the project:** CAVIAR: Infraestructura para pruebas y validación de sistemas de conducción eléctrica, autónoma y conectada en ciudades inteligentes
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain

Name principal investigator (PI, Co-PI....): Jorge Villagra
Funding entity or bodies:
Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 01/04/2019 - 31/12/2019
Total amount: 76.574 €

11 **Name of the project:** ENABLE-S3 - European Initiative to Enable Validation for Highly Automated Safe and Secure Systems
Entity where project took place: Ixion Industry & Aerospace
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jorge Villagra Serrano
Funding entity or bodies:
Comisión Europea **Type of entity:** ECSEL Program
City funding entity: Madrid, Community of Madrid, Spain

Comisión Europea **Type of entity:** ECSEL Program
City funding entity: Madrid, Community of Madrid, Spain

Type of participation: Principal investigator
Name of the programme: ECSEL-17-2015
Code according to the funding entity: 692455
Start-End date: 06/2016 - 05/2019 **Duration:** 3 years
Total amount: 356.874 €
Relevant results: ENABLE-S3 will pave the way for accelerated application of highly automated and autonomous systems in the mobility domains automotive, aerospace, rail and maritime as well as in the health care domain. Virtual testing, verification and coverage-oriented test selection methods will enable validation with reasonable efforts.

12 **Name of the project:** AUTOKILO: Vehículo automatizado para el transporte en el primer y último kilómetro
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Arganda del Rey, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Rodolfo Haber Guerra
Nº of researchers: 2
Funding entity or bodies:
Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 09/2016 - 03/2019
Total amount: 46.428 €

13 **Name of the project:** HACIA LOS SISTEMAS DE DECISIÓN INTUITIVOS PARA VEHÍCULOS AUTÓNOMOS Y CONECTADOS
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Arganda del Rey, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jorge Villagra Serrano
Nº of researchers: 1
Start-End date: 12/2017 - 11/2018
Total amount: 5.000 €

14 **Name of the project:** SWARMS - Smart and Networking UnderWAter Robots in Cooperation Meshes
Entity where project took place: Ixion Industry & Aerospace
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jorge Villagra Serrano
Funding entity or bodies:
Comisión Europea **Type of entity:** ECSEL Program
City funding entity: Madrid, Community of Madrid, Spain

Type of participation: Principal investigator
Name of the programme: ECSEL-2014-1
Code according to the funding entity: 662107
Start-End date: 07/2015 - 06/2018
Total amount: 681.912 €
Relevant results: The primary goal of the SWARMs project is to expand the use of underwater and surface vehicles (AUVs, ROVs, USVs) to facilitate the conception, planning and execution of maritime and offshore operations and missions. SWARMs aims to make AUVs, ROVs and USVs further accessible and useful, making autonomous maritime and offshore operations a viable option for new and existent industries

15 **Name of the project:** 3CCAR - Integrated Components for Complexity Control in affordable electrified cars
Entity where project took place: Ixion Industry & Aerospace **Type of entity:** Business
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jorge Villagra Serrano
Funding entity or bodies:
Comisión Europea **Type of entity:** ECSEL Program
City funding entity: Madrid, Community of Madrid, Spain

Type of participation: Principal investigator
Name of the programme: ECSEL-2014-1
Code according to the funding entity: 662192
Start-End date: 06/2015 - 05/2018
Total amount: 582.143 €
Relevant results: 3Ccar aims to address the vehicle control architecture and its subsystems in order to achieve the next level of efficiency. Therefore 3Ccar is working on advanced system designs with high local smartness (computing power, sensing abilities, modularity) and far extended network bandwidth to enable smart system partitioning

16 **Name of the project:** RETEVI: red Temática de Vehículos Inteligentes
Type of project: Industrial research **Geographical area:** National
Degree of contribution: Researcher
Entity where project took place: Universidad Politécnica de Madrid **Type of entity:** University
Nº of researchers: 3
Funding entity or bodies:
Ministerio de Economía y Competitividad **Type of entity:** State agency

Name of the programme: Redes de Excelencia
Code according to the funding entity: TRA2015-69002-REDT
Start-End date: 01/2016 - 12/2017
Total amount: 30.000 €

17 **Name of the project:** NAVEGASE: Navegación Asistida mediante Lenguaje Natural
Entity where project took place: CENTRO DE AUTOMATICA Y ROBOTICA **Type of entity:** State agency
Name principal investigator (PI, Co-PI....): Matía Espada
Nº of researchers: 9
Funding entity or bodies:
Ministerio de Economía y Competitividad

Name of the programme: Plan Nacional de I+D+i.
Code according to the funding entity: DPI2014-53525-C3-1-R
Start-End date: 01/2015 - 12/2017
Total amount: 167.200 €

18 **Name of the project:** TCAP-AUTO - Familia de Tarjetas Compactas de Altas Prestaciones para Aplicaciones de Automoción
Entity where project took place: Ixion Industry & Aerospace
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jorge Villagra Serrano
Nº of researchers: 18
Funding entity or bodies:
Ministerio de Economía y Competitividad

Type of participation: Co-ordinator
Name of the programme: Retos Colaboración
Code according to the funding entity: RTC-2015-3942-4
Start-End date: 03/2015 - 08/2017
Total amount: 644.319 €
Relevant results: The TCAP-Auto project attempts to answer one of the main challenges of autonomous driving -computational complexity- by developing a set of tools to implement , combine, integrate and validate functionalities for Advanced Driver Assistance Systems, optimized for hybrid embedded systems with multiple cores, MPSoC (Multi- Processor System on Chip) .

19 **Name of the project:** EMC2 - Embedded multi-core systems for mixed criticality applications in dynamic and changeable real-time environments
Entity where project took place: IXION Industry & Aerospace **Type of entity:** Business
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jorge Villagra Serrano
Nº of researchers: 5
Funding entity or bodies:
Comisión Europea **Type of entity:** Artemis Program
City funding entity: Madrid, Community of Madrid, Spain

Type of participation: Principal investigator
Name of the programme: ARTEMIS-2013-1
Code according to the funding entity: 621429
Start-End date: 04/2014 - 03/2017
Total amount: 505.000 €
Relevant results: EMC² is part of the European Embedded Systems industry strategy to maintain its leading edge position by providing solutions for: (i) Dynamic Adaptability in Open Systems Utilization of expensive system features only as Service-on-Demand in order to reduce the overall system cost; (ii) Handling of mixed criticality applications under real-time conditions; (iii) Scalability and utmost flexibility; (iv) Full scale deployment and management of integrated tool chains, through the entire lifecycle; (v) Power supply challenges from dynamic operational changes in MCMC real time systems

20 **Name of the project:** AEROS - Inspección Autónoma de Aerogeneradores en marcha
Geographical area: National
Degree of contribution: Researcher
Entity where project took place: Ixion Industry & Aerospace **Type of entity:** Business
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jose Carlos Montes Navarro
Nº of researchers: 22
Funding entity or bodies:
Ministerio de Economía y Competitividad

Type of participation: Team member
Name of the programme: Retos Colaboración
Code according to the funding entity: RTC-2014-1977-3
Start-End date: 02/2014 - 12/2016
Total amount: 380.905 €

21 **Name of the project:** INNGRAPE- Monitorización de viñedos mediante RPAS
Type of project: Industrial research **Geographical area:** National
Degree of contribution: Researcher
Entity where project took place: Ixion Industry & Aerospace
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jose Carlos Montes Navarro
Nº of researchers: 12
Funding entity or bodies:
Ministerio de Economia y Competitividad

Type of participation: Co-ordinator
Name of the programme: Retos Colaboración
Code according to the funding entity: RTC-2014-3058-2
Start-End date: 02/2014 - 12/2016
Total amount: 369.597 €

22 **Name of the project:** PAPREC - Sistema de prensión automático de piezas revueltas en un contenedor
Type of project: Industrial research **Geographical area:** National
Degree of contribution: Coordinator of total project, network or consortium
Entity where project took place: IXION Industry & Aerospace
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jorge Villagra Serrano
Nº of researchers: 10
Funding entity or bodies:
Ministerio de Economía y Competitividad

Type of participation: Co-ordinator
Name of the programme: Retos Colaboración
Code according to the funding entity: RTC-2014-3070-5
Start-End date: 02/2014 - 12/2016
Total amount: 408.445 €
Relevant results: The aim of PAPREC is to develop a system that is able to automatically inspect a container with ramndom pieces, identify which are easier to access, and guide a robot arm to take these parts one at a time and release them in one place and in a predetermined position

23 **Name of the project:** REPARA- Reengineering and Enabling Performance and poweR of Applications
Entity where project took place: IXION Industry & Aersopace **Type of entity:** Business
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jorge Villagra Serrano
Nº of researchers: 2
Funding entity or bodies:
Comisión Europea **Type of entity:** FP7 ICT
City funding entity: Madrid, Community of Madrid, Spain

Type of participation: Principal investigator
Name of the programme: ICT Call 10 (FP7-ICT-2013-10)
Code according to the funding entity: 609666
Start-End date: 09/2013 - 08/2016
Total amount: 133.819 €
Relevant results: The REPARA project aims to help the transformation and deployment of new and legacy applications in parallel heterogeneous computing architectures while maintaining a balance between application performance, energy efficiency and source code maintainability.

24 **Name of the project:** e-Awake - New Generation ADAS for Enhanced Driving Experience
Entity where project took place: Ixion Industry & Aerospace
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jorge Villagrá Serrano
Nº of researchers: 4
Funding entity or bodies:
European Commission **Type of entity:** Public Research Body

Type of participation: Co-ordinator
Name of the programme: H2020-SMEINST-1-2015
Code according to the funding entity: 684375
Start-End date: 07/2015 - 12/2015
Total amount: 50.000 €
Relevant results: e-Awake will rely on in-house developed algorithms for ADAS and HW/SW co-design methods under a new paradigm, where instead of several dedicated chips, a single device supports a homogeneous software-centric architecture with optimal hardware and software partitioning for functional acceleration.

25 **Name of the project:** i-COPILOT (Asistente inteligente a la conducción)
Type of project: Industrial research
Entity where project took place: IXION Industry & Aerospace **Type of entity:** Business
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jorge Villagra Serrano
Nº of researchers: 9
Funding entity or bodies:
Ministerio de Industria Turismo y Comercio **Type of entity:** Subprograma Avanza
City funding entity: Madrid, Community of Madrid, Spain

Name of the programme: Avanza
Code according to the funding entity: TSI-020602-2012-46
Start-End date: 09/2012 - 12/2014
Total amount: 459.043 €

26 **Name of the project:** ONDA-F (ON Demand Autonomous Fleet in dedicated areas)
Identify key words: Intelligent transport system; Intelligent vehicles; Network control; Systems based on agents
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Arganda del Ray, Community of Madrid, Spain
Nº of researchers: 4
Funding entity or bodies:
Ministerio de Ciencia e Innovación **Type of entity:** Ministerio - Plan Nacional
City funding entity: Madrid, Community of Madrid, Spain

Type of participation: Team member
Start-End date: 01/2012 - 12/2014
Participating entity/entities: Universidad de Alcalá
Total amount: 129.470 €
Relevant results: Vehicle coordination (communication and control) around a dedicated site of application and not only in a critical part -junction, roundabout, etc. - while satisfying global demand, i.e. route planning of vehicles depending on their availability and the mission entrusted to the set.

27 **Name of the project:** DINTEL (Evaluation and development of Swarm Intelligence algorithms to manage large-scale multi-agent vehicle systems))
Identify key words: Artificial intelligence; Dynamic programming; Intelligent transport system; Systems based on agents
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Arganda del Rey, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Teresa de Pedro
Nº of researchers: 2
Funding entity or bodies:
Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 11/2012 - 05/2013
Total amount: 22.000 €
Relevant results: Different swarm intelligence approaches (ant colony optimization, bee-inspires tecquniques) will be impemented and compared in a simulation environment with two main interest applications: (a) dynamic routing, including each agent mission and its possible conflicts/interactions, (b) real-time dynamic ridesharing

28 **Name of the project:** Demonstration of automatic control for vehicles in interurban scenarios
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Arganda del Rey, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Teresa de Pedro
Nº of researchers: 4
Funding entity or bodies:
Ministerio de Ciencia e Innovación **Type of entity:** Ministerio - Plan Nacional
City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 01/2012 - 11/2012
Total amount: 27.000 €
Relevant results: A vehicle of Autopía ran driverless 100 kilometers from Madrid roads. A leading manual vehicle dynamically generated a high precision map to be tracked by the fully autonomous following car. The

journey covered a wide range of driving scenarios, including urban zones, secondary roads and highways, in standard traffic conditions.

29 **Name of the project:** GUIADE (Automatic Guidance System for public transport vehicles using multi-modal perception)
Identify key words: Intelligent transport system; Electric vehicle; Real time control; Perception
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Arganda del Rey, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Teresa de Pedro
Nº of researchers: 8
Funding entity or bodies:
Ministerio de Fomento **Type of entity:** Ministerio
City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 01/2010 - 06/2012
Participating entity/entities: ALBENTIA SYSTEMS, S.A.; ETRA; SICE; Selesta; Universidad Rey Juan Carlos; Universidad de Alcalá
Total amount: 584.328 €
Relevant results: GUIADE project aimed at building a positioning and guiding system for automated public transportation vehicles, based on multimodal perception of the environment that encompasses both infrastructure-based information and data collected by the vehicles themselves. The ultimate goal of the project was to optimize their the system efficiency in terms of energy consumption, environmental impact, safety and quality of public transportation services.

30 **Name of the project:** TRANSITO (Local co-ordination between vehicles and infrastructures)
Identify key words: Artificial intelligence; Intelligent transport system; Intelligent vehicles; Network control; Real time control; Perception
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Arganda del Rey, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Teresa de Pedro
Nº of researchers: 5
Funding entity or bodies:
Ministerio de Ciencia e Innovación **Type of entity:** Ministerio - Plan Nacional
City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 01/2010 - 12/2011
Participating entity/entities: Universidad de Alcalá; Universidad de Extremadura
Total amount: 106.238 €
Relevant results: Implementation the basis of a distributed system for monitoring and managing a hybrid set of vehicles – both manually driven and partially or totally automated – capable of coordinating the traffic in certain critical areas - crossing points and roundabouts.

31 **Name of the project:** MEIGA-3 (Development and implementation of a pyrometer, an opacity sensor and an actuator for Mars mission MEIGA-MetNet)
Identify key words: Physics & space science; Intelligent sensors; Controlator designs; Sensor devices
Entity where project took place: Universidad Carlos III de Madrid **Type of entity:** University
City of entity: Leganés, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Mohamed Abderrahim
Nº of researchers: 5
Funding entity or bodies:
Ministerio de Ciencia e Innovación **Type of entity:** Ministerio - Plan Nacional

City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 01/2009 - 12/2009
Total amount: 35.000 €
Relevant results: MEIGA Mision (Mars Environmental INstrumentation for Ground and Atmosphere) belongs to the European MetNet project. The most significant task developed was to study the process and design of constructing and validating a dust chamber that will lead support to the European MEIGA project allowing the support dust sensor to be calibrated before the project is sent to Mars.

32 **Name of the project:** SEGVAUTO (Automotive security for people with reduced mobility)
Entity where project took place: Universidad Carlos III de Madrid **Type of entity:** University
City of entity: Leganés, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Jose María Armingol
Nº of researchers: 8
Funding entity or bodies:
Comunidad de Madrid **Type of entity:** Comunidad Autónoma
City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 01/2009 - 12/2009
Participating entity/entities: AECIM; ALSA; ANFAC; Ascabus; Asociacion Dato; Aspaym; CEAPAT; Empresa Municipal de Transportes Urbanos, S.A.; FITSA; Fundacion Promi; Instituto Universitario de Investigación del Automóvil ; PSA Peugeot Citroën; Sernauto; Universidad Carlos III de Madrid; Universidad Complutense de Madrid; Universidad Europea de Madrid; Universidad Politécnica de Madrid; VALVERAUTO SA
Total amount: 15.000 €
Relevant results: to enhance motor vehicle safety by placing a special emphasis on designing systems that increase active and passive safety, as well as driving assistance and vehicle-infrastructure interaction systems.

33 **Name of the project:** ROBOT@CWE (Advanced robotic systems in future collaborative working environments)
Entity where project took place: Universidad Carlos III de Madrid **Type of entity:** University
City of entity: Leganés, Community of Madrid, Spain
Nº of researchers: 6
Funding entity or bodies:
6th Framework Programme (EU)

Start-End date: 09/2008 - 09/2009
Participating entity/entities: AIST Japan; Centre National pour la Recherche Scientifique; DRAGADOS Y CONSTRUCCIONES, S.A.; Hewlett Packard European Innovation Centre; SAS Belgium; Salzburg University; Technical University of Munich; École Polytechnique Fédérale de Lausanne
Total amount: 193.591 €
Relevant results: to propose integrative concepts of advanced robotic systems, to be seen as active collaborative agents, in different working environment clusters and operated through various control paradigms

34 **Name of the project:** Algebraic methods to estimate in real time tire friction
Identify key words: Differential algebra; Estimators and predictors
Entity where project took place: Ecole des Mines de Paris **Type of entity:** University
City of entity: Paris, Île de France, France
Name principal investigator (PI, Co-PI....): Hugues Mounier

Nº of researchers: 3
Funding entity or bodies:
CNRS - Groupe de Recherche 717 MACS
Type of entity: Public Research Body
City funding entity: France

Start-End date: 01/2007 - 01/2008
Total amount: 11.800 €
Relevant results: Exploratory research on interdisciplinary joint research to go eypnd the state of the art in the estimation of adherence coefficients for tire efforts

R&D non-competitive contracts, agreements or projects with public or private entities

1 **Name of the project:** AUTO-BUS: Operación Autónoma De Autobuses Urbanos dentro de un depósito para Repostaje, Lavado, Taller Y Parking
Type of project: Demonstration, pilot projects, conceptual formulations and design of processes and services
Entity where project took place: Consejo Superior de Investigaciones Científicas
Degree of contribution: Scientific coordinator
Entity where project took place: Consejo Superior de Investigaciones Científicas
Type of entity: State agency
City of entity: Madrid, Community of Madrid, Spain
Participating entity/entities: EMPRESA MUNICIPAL DE TRANSPORTES DE MADRID SA; Instituto Universitario de Investigación del Automóvil
Funding entity or bodies:
EMPRESA MUNICIPAL DE TRANSPORTES DE MADRID SA

Start date: 07/2020
Duration: 2 years
Total amount: 172.400 €

2 **Name of the project:** ARCO: Aplicación Robótica a un Convoy Operativo
Entity where project took place: Universidad Politécnica de Madrid
Degree of contribution: Coordinator of total project, network or consortium
Entity where project took place: Universidad Politécnica de Madrid
Type of entity: University
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Villagra Jorge
Participating entity/entities: IVECO ESPAÑA SL; Instituto Nacional de Técnica Aerospacial; Sener Ingenieria y Sistemas, S.A.
Funding entity or bodies:
Ministerio de Defensa
Type of entity: Programa Coincidente
City funding entity: Madrid, Community of Madrid, Spain

Name of the programme: Coincidente
Start date: 11/2019
Duration: 2 years
Total amount: 371.900 €

3 **Name of the project:** SafeMuve: Study on technical and safety requirements for Unmanned Ground Vehicles (UGVs), for European Defence Agency
Entity where project took place: Consejo Superior de Investigaciones Científicas
Entity where project took place: Consejo Superior de Investigaciones Científicas
Type of entity: European AgencyType of entity:State agency
Name principal investigator (PI, Co-PI....): Jorge Villagra
Nº of researchers: 2

Funding entity or bodies:
EVERIS AEROESPACIAL Y DEFENSA,S.L.U **Type of entity:** Business
City funding entity: Madrid, Community of Madrid, Spain

Start date: 08/2017 **Duration:** 1 year
Total amount: 97.828 €

4 **Name of the project:** CALK (Collision Avoidance and Lane Keeping)
Identify key words: Intelligent transport system; Intelligent vehicles; Planification; Robust control
Degree of contribution: Researcher
Name principal investigator (PI, Co-PI....): Claude Laurgeau
Nº of researchers: 4
Participating entity/entities: Ecole des Mines de Paris
Funding entity or bodies:
Valeo
City funding entity: Bobigny, Île de France, France

Start date: 10/2007 **Duration:** 1 year
Total amount: 180.000 €
Relevant results: Advanced driver assistance systems to increase safety and comfort in vehicles, namely an advanced Adaptive Cruise Control (ACC) allowing to follow in real time a leading vehicle in urban environments, and a robust control and planning system for the problem of parallel parking assistance.

5 **Name of the project:** RAISE (Relevant Action and Interpretation for SEcured driving)
Identify key words: Intelligent transport system; Driving mechanism; Intelligent vehicles; Laser for perception; Computer vision
Degree of contribution: Researcher
Nº of researchers: 7
Participating entity/entities: Ecole des Mines de Paris
Funding entity or bodies:
Valeo **Type of entity:** Business
City funding entity: Bobigny, Île de France, France

Start date: 02/2007 **Duration:** 1 year
Total amount: 223.929 €
Relevant results: Static obstacles and pedestrians detection and localization using radar technology. Speed Limits Systems. Real time vision?based object tracking. Low Speed Following and Stop&Go

6 **Name of the project:** AAS (Advanced sensitivity analysis)
Identify key words: Dynamics of a rigid body; Control of mechanical systems; Calculus variations and optimal control: optimization; Planification; Robust control; Non-linear systems
Degree of contribution: Researcher
Name principal investigator (PI, Co-PI....): Brigitte d'Andréa-Novel
Nº of researchers: 2
Participating entity/entities: Ecole des Mines de Paris
Funding entity or bodies:
PSA Peugeot-Citroën **Type of entity:** Business
City funding entity: Vélizy, Île de France, France

Start date: 10/2003 **Duration:** 3 years
Total amount: 189.200 €
Relevant results: Optimized design of control laws and parameters for suspension devices. Development of a generic tool for dynamic sensitivity analysis of complex systems in Matlab/Simulink environment. Advanced sensitivity analysis application to develop an optimal control law, which steers a vehicle in

emergency situations (obstacle avoiding). Initial design of a general methodology applied to robust and optimal design of suspension devices. Rear drive-train application.

7 **Name of the project:** CGC (Chassis global control)
Identify key words: Robust control; Real time systems; Non-linear systems; Fault tolerant control; Control architectures; Control in variable states; Optimal control; Controller adjustments
Type of project: Industrial research
Degree of contribution: Researcher
Name principal investigator (PI, Co-PI....): Brigitte d'Andréa-Novel
Nº of researchers: 2
Participating entity/entities: Ecole des Mines de Paris
Funding entity or bodies:
PSA Peugeot-Citroën **Type of entity:** Business
City funding entity: Vélizy, Île de France, France
Start date: 10/2002 **Duration:** 1 year
Total amount: 70.000 €
Relevant results: The aim of this project was to go beyond the state of the art in the chassis global control problem, which has been achieved by designinig a set of nonlinear control laws and observators that allows the vehicle to track the desired trajectories in yaw rate and longitudinal acceleration while stabilizing the behaviors of roll, pitch and verticla dynamics, and using both brakink torques and suspension forces

Results

Industrial and intellectual property

1 **Title registered industrial property:** Dispositivo y procedimiento para la implementación de una maniobra de emergencia para abortar adelantamientos
Inventors/authors/obtainers: Joshué Manuel Pérez Rastelli; Vicente Milanés Montero; Enrique Onieva Caracuel; Jorge Godoy Madrid; Carlos González Fernández-Vallejo; Jorge Villagrá Serrano
Entity holder of rights: Consejo Superior de Investigaciones Científicas
Nº of application: P201131949
Country of inscription: Spain, Community of Madrid
Date of register: 01/11/2011
Operating aut.region/region: Community of Madrid, Spain

2 **Title registered industrial property:** Méthode de modélisation d'un véhicule automobile
Inventors/authors/obtainers: Marco Pengov; Cedric Nouillant; Jorge Villagrá Serrano; Brigitte d'Andréa-Novel
Entity holder of rights: Peugeot Citroën Automobiles
Nº of application: 0754805
Country of inscription: France
Date of register: 30/04/2007
Conferral date: 31/10/2008
Nº of patent: FR2915447

Scientific and technological activities

Scientific production

H index: 24
Date of application: 28/08/2020
Fuente de Indice H: GOOGLE SCHOLAR

Publications, scientific and technical documents

1 Jorge Luis Godoy Madrid; Victor Jimenez Bermejo; Antonio Artuñedo García; Jorge Villagrá Serrano. A Grid-Based Framework for Collective Perception in Autonomous Vehicles. Sensors. 21 - 3, pp. 744. MDPI, 01/2021. ISSN 1424-8220
DOI: 10.3390/s21030744
Type of production: Scientific paper
Format: Journal
Position of signature: 4
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4
Corresponding author: No
Impact source: ISI
Category: INSTRUMENTS & INSTRUMENTATION
Impact index in year of publication: 3,275
Journal in the top 25%: Yes
Position of publication: 15
No. of journals in the cat.: 64

2 Jorge Villagrá Serrano; Vicente Milanés Montero; Jorge Luis Godoy Madrid; Joshué Manuel Pérez Rastelli. Modeling and nonlinear parameter identification for vehicle longitudinal dynamics simulation. Mechanical Systems and Signal Processing. Elsevier, 2021. ISSN 0888-3270
Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal without external admissions assessment committee
Impact source: ISI
Category: Science Edition - ENGINEERING, MECHANICAL
Impact index in year of publication: 1.824
Journal in the top 25%: Yes
Position of publication: 15
No. of journals in the cat.: 122

3 Antonio Artuñedo García; Jorge Villagra Serrano; Jorge Luis Godoy Madrid; Maria Dolores del Castillo Sobrino. Motion planning approach considering localization uncertainty. IEEE Transactions on Vehicular Technology. 69 - 6, pp. 5983 - 5994. IEEE, 04/2020.
Type of production: Scientific paper
Format: Journal
Position of signature: 2
Total no. authors: 4
Corresponding author: No

4 Antonio Artuñedo García; Jorge Luis Godoy Madrid; Jorge VIllagrá Serrano. Real-Time Motion Planning Approach for Automated Driving in Urban Environments. IEEE Access. 7, pp. 180039 - 180053. IEEE, 12/2019.
Type of production: Scientific paper
Format: Journal
Position of signature: 3
Total no. authors: 3
Corresponding author: No

5 Jorge Luis Godoy Madrid; Antonio Artuñedo García; Jorge Villagra Serrano. Self-generated OSM-based driving corridors. IEEE Access. pp. 20113 - 20125. IEEE, 02/2019. ISSN 15249050

Type of production: Scientific paper
Format: Journal
Position of signature: 3
Total no. authors: 3
Impact source: ISI
Category: TRANSPORTATION SCIENCE & TECHNOLOGY
Impact index in year of publication: 3,724
Journal in the top 25%: Yes
Position of publication: 7
No. of journals in the cat.: 34

6 Antonio Artuñedo Garcia; Jorge Luis Godoy Madrid; Jorge Villagra Serrano. A Primitive Comparison for Traffic-Free Path Planning. IEEE Access. 6, pp. 28801 - 28817. IEEE, 05/2018. ISSN 2169-3536
DOI: 10.1109/ACCESS.2018.2839884

Type of production: Scientific paper
Format: Journal
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 3
Corresponding author: No
Impact source: ISI
Category: Science Edition - COMPUTER SCIENCE, INFORMATION SYSTEMS
Impact index in year of publication: 3,244
Journal in the top 25%: Yes
Position of publication: 27
No. of journals in the cat.: 146

7 Luis Medina; Miguel Diez-Ochoa; Raul Correal; Sergio Cuenca-Asensi; Alejandro Serrano; Jorge Godoy; Antonio Martínez-Alvarez; Jorge Villagra. A Comparison of FPGA and GPGPU Designs for Bayesian Occupancy Filters. Sensors. 17 - 11, pp. 2599 - 2623. MDPI, 11/2017. ISSN 1424-8220
DOI: 10.3390/s17112599

Type of production: Scientific paper
Format: Journal
Position of signature: 8
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 8
Impact source: SCOPUS
Category: Science Edition - INSTRUMENTS & INSTRUMENTATION
Impact index in year of publication: 2.677
Journal in the top 25%: Yes
Position of publication: 10
No. of journals in the cat.: 58

8 Marcelo Saval Calvo; Luis Medina Valdes; Jose Maria Castillo Secilla; Sergio Cuenca Asensi; Antonio Martinez Alvarez; Jorge Villagra Serrano. A Review of the Bayesian Occupancy Filter. Sensors. 17 - 2, pp. 344. MDPI, 01/2017. ISSN 1424-8220

Type of production: Scientific paper
Format: Journal
Position of signature: 6
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 6
Impact source: ISI
Category: Science Edition - INSTRUMENTS & INSTRUMENTATION
Impact index in year of publication: 2.033
Journal in the top 25%: Yes
Position of publication: 12
No. of journals in the cat.: 56

9 Jorge Luis Godoy Madrid; Vicente Milanés Montero; Joshué Manuel Pérez Rastelli; Jorge Villagrá Serrano; Enrique Onieva Caracuel; Rodolfo Haber Guerra. A Driverless Vehicle Demonstration on Motorways and in Urban Environment. Transport. 30 - 3, pp. 1 - 11. 01/2015. ISSN 1648-4142

Type of production: Scientific paper
Format: Journal
Position of signature: 4
Degree of contribution: Author or co-author of article in journal without external admissions assessment committee
Total no. authors: 5
Impact source: ISI
Impact index in year of publication: 0.529
Source of citations: Google Scholar
Citations: 1

10 Hassan HosseinNia; Ines Tejado Balsera; Vicente Milanés Montero; Jorge Villagrá Serrano; Blas Vinagre. Experimental Application of Hybrid Fractional-Order Adaptive Cruise Control at Low Speed. IEEE Transactions on Control Systems Technology. 22 - 6, pp. 2329 - 2336. IEEE, 04/2014. ISSN 1063-6536
Type of production: Scientific paper
Format: Journal
Position of signature: 4
Degree of contribution: Author or co-author of article in journal without external admissions assessment committee
Total no. authors: 5
Corresponding author: No
Impact source: ISI
Category: Science Edition - AUTOMATION & CONTROL SYSTEMS
Impact index in year of publication: 2.521
Journal in the top 25%: Yes
Position of publication: 13
No. of journals in the cat.: 58
Source of citations: Google Scholar
Citations: 7

11 Jorge Godoy Madrid; Vicente Milanés Montero; Joshué Manuel Pérez Rastelli; Jorge Villagra Serrano; Enrique Onieva Caracuel. An auxiliary V2I network for road transport and dynamic environments. Transportation Research Part C: Emerging Technologies. 37, pp. 145 - 156. Elsevier, 10/2013. ISSN 0968-090X
Type of production: Scientific paper
Format: Journal
Position of signature: 4
Degree of contribution: Author or co-author of article in journal without external admissions assessment committee
Total no. authors: 5
Impact source: ISI
Category: Science Edition - TRANSPORTATION SCIENCE & TECHNOLOGY
Impact index in year of publication: 2.006
Journal in the top 25%: Yes
Source of citations: Google scholar
Citations: 3

12 Inés Tejado Balsera; Vicente Milanés Montero; Jorge Villagrá Serrano; Blas Manuel Vinagre Jara. Fractional Network-Based Control for Vehicle Speed Adaptation via Vehicle-to-Infrastructure Communications. IEEE Transactions on Control Systems Technology. 21 - 3, pp. 780 - 790. IEEE, 05/2013. ISSN 1063-6536
Type of production: Scientific paper
Format: Journal
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4
Impact source: ISI
Category: Science Edition - AUTOMATION & CONTROL SYSTEMS
Impact index in year of publication: 2.521
Journal in the top 25%: Yes
Position of publication: 13
No. of journals in the cat.: 58
Source of citations: Google Scholar
Citations: 8

13 Humberto Martinez Barberá; Jorge Villagra Serrano; David Herrero Pérez. Self-Configuration of Waypoints for Docking Maneuvers of Flexible Automated Guided Vehicles. IEEE Transactions on Automation Science and Engineering. IEEE, 04/2013. ISSN 1545-5955

Type of production: Scientific paper
Format: Journal
Position of signature: 2
Degree of contribution: Author or co-author of article in journal without external admissions assessment committee
Total no. authors: 3
Impact source: SCOPUS
Category: Control and Systems Engineering
Impact index in year of publication: 1.524
Journal in the top 25%: Yes
Position of publication: 29
No. of journals in the cat.: 210
Source of citations: Google Scholar
Citations: 4

14 Joshué Manuel Pérez Rastelli; Vicente Milanés Montero; Jorge Godoy Madrid; Jorge Villagrá Serrano; Enrique Onieva Caracuel. Cooperative controllers for highways based on human experience. Expert Systems with Applications. 40 - 4, pp. 1024 - 1033. Elsevier, 03/2013. ISSN 0957-4174

Type of production: Scientific paper
Format: Journal
Position of signature: 4
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 5
Impact source: ISI
Category: Science Edition - ENGINEERING, ELECTRICAL & ELECTRONIC
Impact index in year of publication: 2.203
Journal in the top 25%: Yes
Position of publication: 41
No. of journals in the cat.: 41
Source of citations: Google scholar
Citations: 8

15 Enrique Onieva Caracuel; Jorge Godoy Madrid; Jorge Villagrá Serrano; Vicente Milanés Montero; Joshué Manuel Pérez Rastelli. On-line learning of a fuzzy controller for a precise vehicle cruise control system. Expert Systems with Applications. 40 - 4, pp. 1046 - 1053. Elsevier, 03/2013. ISSN 0957-4174

Type of production: Scientific paper
Format: Journal
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Impact source: ISI
Category: Science Edition - ENGINEERING, ELECTRICAL & ELECTRONIC
Impact index in year of publication: 2.203
Journal in the top 25%: Yes
Position of publication: 41
No. of journals in the cat.: 41
Source of citations: Google Scholar
Citations: 12

16 Enrique Onieva Caracuel; Vicente Milanés Montero; Jorge Villagrá Serrano; Joshué Manuel Pérez Rastelli; Jorge Godoy Madrid. Genetic Optimization of a Vehicle Fuzzy Decision System for Intersections. Expert Systems with Applications. 39 - 18, pp. 13148 - 13157. Elsevier, 12/2012. ISSN 0957-4174

Type of production: Scientific paper
Format: Journal
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 5
Impact source: ISI
Category: Science Edition - ENGINEERING, ELECTRICAL & ELECTRONIC
Impact index in year of publication: 2.203
Journal in the top 25%: Yes

Position of publication: 41
No. of journals in the cat.: 245
Source of citations: Google Scholar
Citations: 13

17 Vicente Milanés Montero; David Fernández Llorca; Jorge Villagrá Serrano; Joshué Manuel Pérez Rastelli; Carlos Fernández López; Ignacio Parra Alonso; Carlos González Fernández-Vallejo; Miguel Angel Sotelo Vazquez. Vision-based active safety system for automatic stopping. Expert Systems with Applications. 39 - 12, pp. 11234 - 11242. Elsevier, 09/2012. ISSN 0957-4174

Type of production: Scientific paper
Format: Journal
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 5
Impact source: ISI
Category: Science Edition - ENGINEERING, ELECTRICAL & ELECTRONIC
Impact index in year of publication: 2.203
Journal in the top 25%: Yes
Position of publication: 41
No. of journals in the cat.: 245
Source of citations: Google Scholar
Citations: 17

18 Vicente Milanés Montero; Luciano Alonso Rentería; Jorge Villagrá Serrano; Jorge Gdoy Madrid; Teresa de Pedro Lucio; Juan Pérez Oria. Traffic jam driving with NMV avoidance. Mechanical Systems and Signal Processing. 31, pp. 332 - 344. 08/2012. ISSN 0888-3270

Type of production: Scientific paper
Format: Journal
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Impact source: ISI
Category: Science Edition - ENGINEERING, MECHANICAL
Impact index in year of publication: 1.824
Journal in the top 25%: Yes
Position of publication: 15
No. of journals in the cat.: 122
Source of citations: Google Scholar
Citations: 5

19 Jorge Villagrá Serrano; David Herrero Pérez. A comparison of control techniques for robust docking maneuvers of an AGV. IEEE Transactions on Control Systems Technology. 20 - 4, pp. 1116 - 1123. IEEE, 07/2012. ISSN 1063-6536

Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 2
Corresponding author: Yes
Impact source: ISI
Category: Science Edition - AUTOMATION & CONTROL SYSTEMS
Impact index in year of publication: 2.521
Journal in the top 25%: Yes
Position of publication: 13
No. of journals in the cat.: 58
Source of citations: Google Scholar
Citations: 14

20 Vicente Milanés Montero; Jorge Villagrá Serrano; Jorge Godoy Madrid; Carlos González Fernández-Vallejo. Comparing Fuzzy and Intelligent PI Controllers in Stop-and-Go Maneuvers. IEEE Transactions on Control Systems Technology. 20 - 3, pp. 770 - 778. IEEE, 05/2012. ISSN 1063-6536

Type of production: Scientific paper
Format: Journal
Position of signature: 2
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4

Impact source: ISI
Category: Science Edition - AUTOMATION & CONTROL SYSTEMS
Impact index in year of publication: 2.521
Journal in the top 25%: Yes
Position of publication: 13
No. of journals in the cat.: 58
Source of citations: Google Scholar
Citations: 31

21 Vicente Milanés Montero; Jorge Villagrá Serrano; Jorge Godoy Madrid; Javier Simó Reigadas; Joshué Manuel Pérez Rastelli; Enrique Onieva Caracuel. Intelligent V2I-Based Traffic Management System. IEEE Transactions on Intelligent Transportation Systems. 13 - 1, pp. 49 - 58. IEEE, 03/2012. ISSN 1524-9050

Type of production: Scientific paper
Format: Journal
Position of signature: 2
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 6
Impact source: SCOPUS
Category: Science Edition - TRANSPORTATION SCIENCE & TECHNOLOGY
Impact index in year of publication: 3.452
Journal in the top 25%: Yes
Position of publication: 1
No. of journals in the cat.: 28
Source of citations: Google Scholar
Citations: 40

22 Vicente Milanés Montero; David Fernández Llorca; Jorge Villagrá Serrano; Joshué Manuel Pérez Rastelli; Carlos Fernandez López; Ignacio Parra Alonso; Carlos González Fernández-Vallejo; Miguel Angel Sotelo Vazquez. Intelligent Automatic Overtaking System Using Vision for Vehicle Detection. Expert Systems with Applications. 39 - 3, pp. 362 - 3373. Elsevier, 02/2012. ISSN 0957-4174

Type of production: Scientific paper
Format: Journal
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 8
Impact source: ISI
Category: Science Edition - ENGINEERING, ELECTRICAL & ELECTRONIC
Impact index in year of publication: 2.203
Journal in the top 25%: Yes
Position of publication: 41
No. of journals in the cat.: 245
Source of citations: Google Scholar
Citations: 37

23 Jorge Villagrá Serrano; Vicente Milanés Montero; Joshué Manuel Pérez Rastelli; Jorge Godoy Madrid. Smooth path and speed planning for an automated public transport vehicle. Robotics and Autonomous Systems. 60 - 2, Elsevier, 02/2012. ISSN 0921-8890

Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4
Impact source: SCOPUS
Category: Control and Systems Engineering
Impact index in year of publication: 1.652
Journal in the top 25%: Yes
Position of publication: 25
No. of journals in the cat.: 202
Source of citations: Google Scholar
Citations: 28

24 Vicente Milanés Montero; Jorge Villagrá Serrano; Joshué Manuel Pérez Rastelli; Carlos González Fernández-Vallejo. Low-Speed Longitudinal Controllers for Mass-Produced Cars: A Comparative Study. IEEE Transactions on Industrial Electronics. 59 - 1, pp. 620 - 628. IEEE, 01/2012. ISSN 0278-0046

Type of production: Scientific paper
Format: Journal
Position of signature: 2
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4
Impact source: ISI
Category: Science Edition - AUTOMATION & CONTROL SYSTEMS
Impact index in year of publication: 5.160
Journal in the top 25%: Yes
Position of publication: 1
No. of journals in the cat.: 58
Source of citations: Google Scholar
Citations: 19

25 Jorge Villagrá Serrano; Michel Fliess; Brigitte d'Andréa-Novel; Hugues Mounier; Lganhi Menhour. Corrigendum to "A diagnosis-based approach for tire-road forces and maximum friction estimation" [Control Engineering Practice 19(2) (2011) 174-184]. Control Engineering Practice. 19 - 10, pp. 1252. Elsevier, 10/2011. ISSN 0967-0661

Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of review
Impact source: ISI
Category: Science Edition - AUTOMATION & CONTROL SYSTEMS
Impact index in year of publication: 1.481
Journal in the top 25%: No
Position of publication: 18
No. of journals in the cat.: 58
Source of citations: Google Scholar
Citations: 1

26 Vicente Milanés Montero; Jorge Godoy Madrid; Jorge Villagrá Serrano; Joshué Manuel Pérez Rastelli. Automated on-ramp merging system for congested traffic situations. IEEE Transactions on Intelligent Transportation Systems. 12 - 2, pp. 500 - 508. IEEE, 06/2011. ISSN 1524-9050

Type of production: Scientific paper
Format: Journal
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4
Impact source: ISI
Category: Science Edition - TRANSPORTATION SCIENCE & TECHNOLOGY
Impact index in year of publication: 3.452
Journal in the top 25%: Yes
Position of publication: 1
No. of journals in the cat.: 1
Source of citations: Google Scholar
Citations: 47

27 Jorge Villagra Serrano; Carlos Balaguer. A model-free approach for accurate joint motion control in humanoid locomotion. International Journal of Humanoid Robotics. 8 - 1, pp. 27 - 46. World Scientific, 03/2011. ISSN 0219-8436

Type of production: Scientific paper
Format: Book
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 2
Impact source: SCOPUS
Category: Mechanical Engineering
Impact index in year of publication: 0.373
Journal in the top 25%: No
Position of publication: 233
No. of journals in the cat.: 504
Source of citations: Google Scholar
Citations: 13

28 Jorge Villagrá Serrano; Brigitte d'Andréa-Novel; Michel Fliess; Hugues Mounier. A diagnosis-based approach for tire–road forces and maximum friction estimation. Control Engineering Practice. 19 - 2, pp. 174 - 184. Elsevier, 02/2011. ISSN 0967-0661

Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4
Impact source: SCOPUS
Category: Control and Systems Engineering
Impact index in year of publication: 1.481
Journal in the top 25%: Yes
Position of publication: 32
No. of journals in the cat.: 210
Source of citations: Google Scholar
Citations: 72

29 Jorge Villagra Serrano; Vicente Milanés Montero; Joshúe Manuel Pérez Rastelli; Teresa de Pedro Lucio. Control basado en PID inteligentes: Aplicación al control de crucero de un vehículo a bajas velocidades. RIAI - Revista Iberoamericana de Automatica e Informatica Industrial. 7 - 4, pp. 44 - 52. Comité Español Automática CEA, 10/2010. ISSN 1697-7912

Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Impact source: ISI
Category: Science Edition - AUTOMATION & CONTROL SYSTEMS
Impact index in year of publication: 0.231
Journal in the top 25%: No
Position of publication: 54
No. of journals in the cat.: 54
Source of citations: Google Scholar
Citations: 14

30 Joshué Manuel Pérez Rastelli; Vicente Milanés Montero; Jorge Villagrá Serrano; Enrique Onieva Caracuel; Carlos Gonzalez Fernández-Vallejo. Sistema de ayuda a la conducción en curvas para vehículos reales. DYNA-Bilbao. 85 - 9, pp. 1 - 10. FEDERACION ASOCIACIONES INGENIEROS INDUSTRIALES ESPANA, 2010. ISSN 0012-7361

Type of production: Scientific paper
Format: Journal
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Impact source: ISI
Category: Engineering (miscellaneous)
Impact index in year of publication: 0.171
Journal in the top 25%: No
Position of publication: 84
No. of journals in the cat.: 90

31 Jorge Vilagrá Serano; Brigitte d'Andréa-Novel; Sungwoo Choi; Michel Fliess; Hugues Mounier. Robust stop-and-go control strategy: An algebraic approach for non-linear estimation and control. International Journal of Vehicle Autonomous Systems. 7 - 3-4, pp. 270 - 291. Inderscience Publishers, 2009. ISSN 1741-5306

Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Impact source: SCOPUS
Category: Control and Systems Engineering
Impact index in year of publication: 0.203
Source of citations: Google Scholar
Citations: 47

32 Brigitte d'Andréa-Novel; Jorge Villagrá Serrano; Michel Fliess; Hugues Mounier. Synthèse algébrique d? estimateurs des vitesses longitudinal et latérale d?une automobile. e-STA, revue des Sciences et Technologies de l'Automatique. 5 - 3, Société de l'Electricité, de l'Electronique et des Technologies de l'Information et de la Communication, 2008. Available on-line at: <http://www.e-sta.see.asso.fr/?lire=53&sm=5>. ISSN 1954-3522

Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Source of citations: Google Scholar
Citations: 5

33 Jorge Villagrá Serrano; Brigitte d'Andréa-Novel; Hugues Mounier; Marco Pengov. Flatness based vehicle steering control strategy with SDRE feedback gains tuned via a sensitivity approach. IEEE Transactions on Control Systems Technology. 15 - 3, pp. 554 - 565. IEEE, 05/2007. ISSN 1063-6536

Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4
Impact source: ISI
Category: Science Edition - AUTOMATION & CONTROL SYSTEMS
Impact index in year of publication: 2.521
Journal in the top 25%: Yes
Position of publication: 13
No. of journals in the cat.: 58
Source of citations: Google Scholar
Citations: 77

34 Jorge Villagrá Serrano; Brigitte d'Andréa-Novel; Hugues Mounier; Marco Pengov. Sensitivity Based Gains Choice for a SDRE Vehicle Steering Control Strategy. International Journal of Tomography & Statistics. 6 - 7, pp. 140 - 146. Indian Society for Development and Environment Research, 2007. ISSN 0973-7294

Collection: IJTS Special issues on "Control Applications of Optimisation"
Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Impact source: SCOPUS
Category: Computer Science (miscellaneous)
Impact index in year of publication: 0.114
Source of citations: Google Scholar
Citations: 1

35 Jorge Villagrá Serrano; Brigitte d'Andréa-Novel; Hugues Mounier; Marco Pengov. Une stratégie de commande basée sur la platitude pour les véhicules de type voiture. e-STA, revue des Sciences et Technologies de l'Automatique. 4 - 3, Société de l'Electricité, de l'Electronique et des Technologies de l'Information et de la Communication, 2007. Available on-line at: <http://www.e-sta.see.asso.fr/?lire=43&sm=4>. ISSN 1954-3522

Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4
Source of citations: Google Scholar
Citations: 2

36 Jorge Villagra. Automated Driving. Intelligent Vehicles. pp. 275 - 343. Elsevier, 09/2017. ISBN 978-0-12-812800-8

Type of production: Book chapter
Format: Book
Position of signature: 1
Degree of contribution: Author or co-author of chapter in book
Total no. authors: 14

37 Javier Sanchez Medina; Rafael Arnay; Antonio Artuñedo; Sergio Campos Cordobés; Jorge Villagra. Traffic Simulation. Intelligent Vehicles. pp. 404 - 422. Elsevier, 09/2017. ISBN 978-0-12-812800-8

Type of production: Book chapter
Format: Book
Position of signature: 5
Degree of contribution: Author or co-author of chapter in book
Total no. authors: 5

38 Jorge Villagrá Serrano; Jorge Luis Godoy Madrid; Carlos González Fernández-Vallejo; Teresa de Pedro Lucio. Nearly?time optimal smooth path planning using continuous curvature derivative primitives. Lecture Notes in Computer Science. 8112, pp. 1 - 8. Springer Berlin Heidelberg, 2013. ISSN 0302-9743

Type of production: Book chapter
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of chapter in book
Total no. authors: 4
Corresponding author: Yes
Impact source: SCOPUS
Category: Computer Science (miscellaneous)
Impact index in year of publication: 0.339
Journal in the top 25%: No
Position of publication: 102
No. of journals in the cat.: 234

39 Jorge Luis Godoy Madrid; Jorge Villagra Serrano; Teresa de Pedro Lucio; Ramón Galán López. Virtual Vehicle Approach for Longitudinal Control in Urban Environments. Lecture Notes in Computer Science. 8112, pp. 25 - 32. Springer Berlin Heidelberg, 2013. ISSN 0302-9743

Type of production: Book chapter
Format: Journal
Position of signature: 2
Degree of contribution: Author or co-author of chapter in book
Total no. authors: 4
Impact source: SCOPUS
Category: Computer Science (miscellaneous)
Impact index in year of publication: 0.339
Journal in the top 25%: No
Position of publication: 102
No. of journals in the cat.: 234

40 Enrique Onieva Caracuel; Jorge Godoy Madrid; Jorge Villagrá Serrano. Precise Vehicle Cruise Control System Based on On-Line Fuzzy Control Learning. Communications in Computer and Information Science. 297, pp. 101 - 110. Springer, 07/2012. ISBN 978-3-642-31709-5

Type of production: Book chapter
Format: Book
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Impact source: SCOPUS
Category: Computer Science
Impact index in year of publication: 0.137
Source of citations: Google Scholar
Citations: 2

41 Jorge Villagrá Serrano; Vicente Milanés Montero; Joshué Manuel Pérez Rastelli; Jorge Godoy Madrid; Enrique Onieva Caracuel; Javier Alonso Ruiz; Carlos González Fernández-Vallejo; Teresa de Pedro Lucio; Ricardo García ROsa. A reinforcement learning modular control architecture for fully automated vehicles. Lecture Notes in Computer Science. 6928 - 2, pp. 382 - 389. Springer, 2012. ISSN 1611-3349

Type of production: Book chapter
Format: Book
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 9
Impact source: SCOPUS
Category: Mathematics: Theoretical Computer Science
Impact index in year of publication: 0.331
Source of citations: Google Scholar
Citations: 1

42 Vicente Milanés Montero; Enrique Onieva Caracuel; Joshué Manuel Pérez Rastelli; Jorge Vilagrá Serrano; Jorge Godoy Madrid; Javier Alonso Ruiz; Carlos González Fernández-Vallejo; Teresa de Pedro Lucio; Ricardo García Rosa. AUTOPIA program advances: How to automate the traffic?. Lecture Notes in Computer Science. 6928 - 2, pp. 374 - 381. Springer, 2012. ISSN 1611-3349

Type of production: Book chapter
Format: Book
Position of signature: 4
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 9
Impact source: SCOPUS
Category: Mathematics: Theoretical Computer Science
Impact index in year of publication: 0.331
Source of citations: Google Scholar
Citations: 3

43 Joshué Manuel Pérez Rastelli; Jorge Villagrá Serrano; Enrique Onieva Caracuel; Vicente Milanés Montero; Teresa de Pedro Lucio; Ljubo Vlacic. Driving by driverless vehicles in urban environment. Lecture Notes in Computer Science. 6928 - 2, pp. 404 - 411. Springer, 2012. ISSN 1611-3349

Type of production: Book chapter
Format: Book
Position of signature: 2
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 6
Impact source: SCOPUS
Category: Mathematics: Theoretical Computer Science
Impact index in year of publication: 0.331
Source of citations: Google Scholar
Citations: 2

44 Enrique Onieva Caracuel; Vicente Milanés Montero; Joshué Manuel Pérez Rastelli; Javier Alonso Ruiz; Teresa de Pedro Lucio; Ricardo García Rosa; Jorge Godoy Madrid; Jorge Villagrá Serrano. Study of traffic flow controlled with independent agent-based traffic signals. Lecture Notes in Computer Science. 6928 - 2, pp. 382 - 389. Springer, 2012. ISSN 1611-3349

Type of production: Book chapter
Format: Book
Position of signature: 8
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 8
Impact source: SCOPUS
Category: Mathematics: Theoretical Computer Science
Impact index in year of publication: 0.331
Source of citations: Google Scholar
Citations: 1

45 Javier Alonso Ruiz; Jorge Godoy Madrid; Roberto Sanz Villa; Enrique Onieva Caracuel; Vicente Milanés Montero; Jorge Villagrá Serrano; Carlos González Fernandez-Vallejo; Teresa de Pedro Lucio; RIcardo García Rosa. Traffic light intelligent regulation using infrastructure located sensors. Lecture Notes in Computer Science. 6928 - 2, pp. 398 - 403. Springer, 2012. ISSN 1611-3349

Type of production: Book chapter
Format: Book
Position of signature: 6
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 9
Impact source: SCOPUS
Category: Mathematics: Theoretical Computer Science
Impact index in year of publication: 0.331
Source of citations: Google Scholar
Citations: 1

46 Jorge Villagrá Serrano; Carlos Balaguer. An Algebraic Approach for Accurate Motion Control of Humanoid Robot Joints. Lecture Notes in Computer Science. 5928, pp. 723 - 732. Springer, 2009. ISSN 1611-3349

Type of production: Book chapter
Format: Book
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Source of citations: Google Scholar
Citations: 1

47 Sungwoo Choi; Brigitte d'Andréa-Novel; Jorge Villagrá Serrano. Robust Algebraic Approach for Radar Signal Processing: Noise Filtering, Time-Derivative Estimation and Perturbation Estimation. Springer Proceedings in Physics. 124, pp. 143 - 151. Springer, 2008. ISSN 1867-4941

Type of production: Book chapter
Format: Book
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Source of citations: Google Scholar
Citations: 1

48 Jorge Villagra. Vers une conception optimisée des systèmes mécatroniques. pp. 1 - 336. Presses Académiques Francophones, 11/2013. ISBN 978-3-8416-2553-3

Type of production: Scientific book or monograph
Format: Book
Degree of contribution: Author or co-author of entire book

49 Jorge Villagrá Serrano. Conception optimisée de lois de commande et de paramètres pour les organes de liaison au sol. Phd Dissertation Ecole des Mines de Paris. Paris, Île de France(France): ENSMP, 11/10/2006.

Type of production: Scientific-technical report
Format: Scientific and technical document or report
Position of signature: 1
Degree of contribution: Author or co-author of scientific or technical document for the general public
Source of citations: Google Scholar
Citations: 1

50 Jorge Villagrá Serrano; Brigitte d'Andréa-Novel; Hugues Mounier. Analyse avancée de sensibilité et contrôle globale de châssis. Technical report Mines Paris/PSA-Peugeot Citroën n° CRT101120803. Paris, Île de France(France): 07/2005.

Type of production: Scientific-technical report
Format: Scientific and technical document or report
Position of signature: 1
Degree of contribution: Author or co-author of reserved scientific or technical document

51 Jorge Villagrá Serrano; Brigitte d'Andréa-Novel; Hugues Mounier. Stratégies de commande pour le passage VDA. Technical report Mines Paris/PSA-Peugeot Citroën n° 101120802. Paris, Île de France(France): 06/2004.

Type of production: Scientific-technical report
Format: Scientific and technical document or report
Position of signature: 1
Degree of contribution: Author or co-author of reserved scientific or technical document

52 Jorge Villagra Serrano; Brigitte d'Andréa-Novel; Hugues Mounier. Analyse de sensibilités et planification de trajectoires. Technical report Mines Paris/PSA-Peugeot Citroën n° BAV V00106276. Paris, Île de France(France): 06/2003.

Type of production: Scientific-technical report
Format: Scientific and technical document or report
Position of signature: 1
Degree of contribution: Author or co-author of reserved scientific or technical document

53 Jorge Villagra Serano; Brigitte d'Andréa-Novel; Hugues Mounier. Calcul de sensibilités par la méthode des adjoints sur le modèle à 6 ddl. d'un véhicule. Tecnical report Mines Paris/PSA Peugeot Citroën n° BAV V00106274. París, Île de France(France): 30/06/2002.

Type of production: Scientific-technical report
Format: Scientific and technical document or report

Position of signature: 1

Degree of contribution: Author or co-author of reserved scientific or technical document

Works submitted to national or international conferences

1 **Title of the work:** A comparison of lateral intention models for interaction-aware motion prediction at highways
Name of the conference: 7th International Conference on Vehicle Technology and Intelligent Transport Systems (VEHITS)
Corresponding author: No
Date of event: 04/2021
Organising entity: INSTICC
Vinicius Trentin; Antonio Artuñedo García; Jorge Luis Godoy Madrid; Jorge Villagra Serrano.

2 **Title of the work:** Traded control architecture for automated vehicles enabled by the scene complexity estimation
Name of the conference: 4th International Conference on Computer-Human Interaction Research and Applications
Corresponding author: No
City of event: Online streaming,
Date of event: 11/2020
Organising entity: INSTICC
Jorge Villagra Serrano; Antonio Artuñedo García; Juan Felipe Medina Lee.

3 **Title of the work:** Interaction-aware risk assessment: focus on the lateral intention
Name of the conference: 2020 IEEE 3rd Connected and Automated Vehicles Symposium (CAVS)
Corresponding author: Yes
City of event: Victoria, Canada
Date of event: 10/2020
Organising entity: IEEE
Jorge Villagra; Vinicius Trentin; Antonio Artuñedo; Jorge Godoy. "Proceedings of the 2020 IEEE 3rd Connected and Automated Vehicles Symposium".

4 **Title of the work:** Machine learning based motion planning approach for intelligent vehicles
Name of the conference: 2020 IEEE Intelligent Vehicles Symposium
Corresponding author: No
City of event: Las Vegas, United States of America
Date of event: 10/2020
Organising entity: IEEE
Antonio Artuñedo; Gabriel Corrales; Jorge Villagra; Jorge Godoy. "Proccedings of the 2020 IEEE Intelligent Vehicles Symposium".

5 **Title of the work:** Reachability Estimation in Dynamic Driving Scenes for Autonomous Vehicles
Name of the conference: 2020 IEEE Intelligent Vehicles Symposium
Corresponding author: No
City of event: Las Vegas, United States of America
Date of event: 10/2020
Organising entity: IEEE
Juan Medina Lee; Antonio Artuñedo; Jorge Godoy; Jorge Villagra. "Proceedings of the 2020 IEEE Intelligent Vehicles Symposium".

6 **Title of the work:** Model-free control for machine tools
Name of the conference: 21st IFAC World Congress
Corresponding author: Yes
City of event: Berlin, Germany
Date of event: 07/2020
Organising entity: IFAC
Jorge Villagra; Cédric Join; Rofolfo Haber; Michel Fliess. "Proceedings of the 21st IFAC World Congress".

7 **Title of the work:** Framework for motion prediction of vehicles in a simulation environment
Name of the conference: XL Jornadas de Automática
City of event: Ferrol, Galicia, Spain
Date of event: 09/2019
Organising entity: CEA IFAC
Vinicius Trentin; Juan Felipe Medina Lee; Jorge Villagra Serrano.

8 **Title of the work:** PRYSTINE – Technical Progress After Year 1
Name of the conference: 22nd Euromicro Conference on Digital System Design (DSD)
Corresponding author: No
City of event: Kallithea, Greece
Date of event: 08/2019
Organising entity: IEEE
Norbert Druml and Omar Veledar and Georg Macher and Georg Stettinger and Solmaz Selim and Jakob Reck. "Proceedings of 22nd Euromicro Conference on Digital System Design (DSD)".

9 **Title of the work:** A decision-making architecture for automated driving without detailed prior maps
Name of the conference: 2019 IEEE Intelligent Vehicles Symposium
City of event: Paris, Île de France, France
Date of event: 06/2019
Organising entity: IEEE
1; Jorge Luis Godoy Madrid; Antonio Artuñedo García; Jorge Villagra Serrano.

10 **Title of the work:** Validación de una estrategia para la estimación del riesgo en intersecciones con vehículos conectados
Name of the conference: XXXIX Jornadas de Automática
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Badajoz, Extremadura, Spain
Date of event: 09/2018
Organising entity: CEA IFAC **Type of entity:** Associations and Groups
Type of contribution: Scientific paper
Jorge Villagrá Serrano; Manuel Perarnau; Jorge Luis Godoy Madrid; Antonio Artuñedo García.

11 **Title of the work:** Adaptive and cooperative decision-making strategies for autonomous driving in urban environments
Name of the conference: II Doctorate Symposium
City of event: Madrid, Community of Madrid, Spain
Date of event: 03/2018
Organising entity: Universidad Politécnica de Madrid **Type of entity:** University
Antonio Artuñedo García; Jorge Luis Godoy Madrid; Jorge Villagra Serrano.

12 **Title of the work:** Integration and synchronization of different-scope automotive simulators for autonomous vehicles' testing
Name of the conference: 15th European Automotive Congress (EAEC 2017)
Type of event: Conference
City of event: Madrid, Community of Madrid, Spain
Date of event: 10/2017
End date: 10/2017
Organising entity: FISITA
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Diego Fuentes; Jesús Rubén Gastón; Raul Correal; Jorge Villagra.

13 **Title of the work:** Footprint-based classification of road moving objects using occupancy grids
Name of the conference: 2017 IEEE Intelligent Vehicles Symposium
Type of event: Conference **Geographical area:** Non EU International
Type of participation: Participatory - oral communication
City of event: Redondo Beach, CA, United States of America
Date of event: 06/2017
End date: 06/2017
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Victor Alonso; Raul Correal; Jorge Villagra. "Footprint-based classification of road moving objects using occupancy grids". En: Proceedings of the 2017 IEEE Intelligent Vehicles Symposium.

14 **Title of the work:** Smooth path planning for urban autonomous driving using OpenStreetMaps
Name of the conference: 2017 IEEE Intelligent Vehicles Symposium
Type of event: Conference **Geographical area:** Non EU International
Type of participation: Participatory - oral communication **Reasons for participation:** Review before acceptance
City of event: Redondo Beach, United States of America
Date of event: 06/2017
End date: 06/2017
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Antonio Artuñedo; Jorge Godoy; Jorge Villagra. "Smooth path planning for urban autonomous driving using OpenStreetMaps". En: Proceedings of the 2017 IEEE Intelligent Vehicles Symposium.

15 **Title of the work:** A comparison of local path-planning interpolation methods for autonomous driving in urban environments
Name of the conference: Industriales Research Meeting 2017
City of event: Madrid, Community of Madrid, Spain
Date of event: 04/2017
Organising entity: Universidad Politécnica de Madrid **Type of entity:** University
City organizing entity: Madrid, Community of Madrid, Spain
Antonio Artuñedo; Jorge Godoy; Jorge Villagra. ISBN 978-84-16397-58-7

16 **Title of the work:** Advanced co-simulation framework for cooperative maneuvers among vehicles
Name of the conference: 18th International Conference on Intelligent Transportation Systems
Type of event: Conference
Geographical area: European Union
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Las Palmas de Gran Canaria, Canary Islands, Spain
Date of event: 09/2015
End date: 09/2015
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Antonio Artuñedo; Rodolfo Haber; Jorge Gdoy; Jorge Villagra. "Advanced co-simulation framework for cooperative maneuvers among vehicles". En: Proceedings of the 18th International Conference on Intelligent Transportation Systems. pp. 1436 - 1441. 09/2015. ISBN 978-1-4673-6595-6

17 **Title of the work:** Trajectory generator for autonomous vehicles in urban environments
Name of the conference: 2013 IEEE International Conference on Robotics and Automation
Type of event: Conference
Geographical area: European Union
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Karlsruhe, Germany
Date of event: 05/2013
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Joshué Manuel Pérez Rastelli; Jorge Godoy Madrid; Jorge Villagrá Serrano; Enrique Onieva Caracuel. "Trajectory generator for autonomous vehicles in urban environments". En: Proceedings of the 2013 IEEE International Conference on Robotics and Automation. pp. 409 - 414. IEEE, 05/2013. ISSN 1050-4729

18 **Title of the work:** Nearly?time optimal smooth path planning using continuous curvature derivative primitives
Name of the conference: Computer Aided Systems Theory – EUROCAST 2013
Type of event: Conference
Geographical area: European Union
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Las Palmas de Gran Canaria, Canary Islands, Spain
Date of event: 02/2013
Organising entity: Universidad de las Palmas de Gran Canaria
Type of entity: University
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Villagrá Serrano; Jorge Godoy Madrid; Carlos González Fernández-Vallejo; Teresa de Pedro Lucio. "Nearly?time optimal smooth path planning using continuous curvature derivative primitives". En: Extended abstracts of Computer Aided Systems Theory – EUROCAST 2013. 02/2013. ISBN 978-84-695-6971-9

19 **Title of the work:** Virtual Vehicle Approach for Longitudinal Control in Urban Environments
Name of the conference: Computer Aided Systems Theory – EUROCAST 2013
Type of event: Conference
Geographical area: European Union

Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Las Palmas de Gran Canaria, Spain
Date of event: 02/2013
Organising entity: Universidad de las Palmas de Gran Canaria
Type of entity: University
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Godoy Madrid; Jorge Villagrá Serrano; Carlos González Fernandez-Vallejo; Teresa de Pedro Lucio. "Virtual Vehicle Approach for Longitudinal Control in Urban Environments". En: Extended abstracts of Computer Aided Systems Theory – EUROCAST 2013. 02/2013. ISBN 978-84-695-6971-9

20 **Title of the work:** Precise Vehicle Cruise Control System Based on On-Line Fuzzy Control Learning
Name of the conference: 14th International Conference on Information Processing and Management of Uncertainty in knowledge-based systems (IPMU 2012)
Type of event: Conference
Geographical area: European Union
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Catania, Italy
Date of event: 07/2012
Organising entity: University of Catania
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Enrique Onieva Caracuel; Jorge Godoy Madrid; Jorge Villagrá Serrano. "Precise Vehicle Cruise Control System Based on On-Line Fuzzy Control Learning". En: Proceedings of the 14th International Conference on Information Processing and Management of Uncertainty in knowledge-based systems. 2012.

21 **Title of the work:** Development of a particle swarm algorithm for vehicle localization
Name of the conference: IEEE Intelligent Vehicles Symposium 2012 (IV'12)
Type of event: Conference
Geographical area: Non EU International
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Alcalá de Henares, Community of Madrid, Spain
Date of event: 06/2012
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Godoy Madrid; Dominique Gruyer; Alain Lambert; Jorge Villagrá Serrano. "Development of a particle swarm algorithm for vehicle localization". En: Proceedings of the IEEE Intelligent Vehicles Symposium 2012. pp. 1114 - 1119. 06/2012. ISSN 1931-0587

22 **Title of the work:** Path following with backtracking based on fuzzy controllers for fordward and reverse driving
Name of the conference: IEEE Intelligent Vehicles Symposium 2012 (IV'12)
Type of event: Conference
Geographical area: Non EU International
Type of participation: 'Participatory - poster
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Alcalá de Henares, Community of Madrid, Spain

Date of event: 06/2012
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Joshué Manuel Pérez Rastelli; Jorge Godoy Madrid; Vicente Milanés Montero; Enrique Onieva Caracuel; Jorge Villagrá Serrano. "Path following with backtracking based on fuzzy controllers for fordward and reverse driving". En: Proceedings of the IEEE Intelligent Vehicles Symposium 2012. pp. 1108 - 1113. 06/2012. ISSN 1931-0587

23 **Title of the work:** Path and speed planning for smooth autonomous navigation
Name of the conference: IEEE Intelligent Vehicles Symposium 2012 (IV'12)
Type of event: Seminar
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Alcalá de Henares, Community of Madrid, Spain
Date of event: 06/2012
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Villagrá Serrano; Vicente Milanés Montero; Joshué Manuel Pérez Rastelli; Jorge Godoy Madrid; Enrique Onieva Caracuel. "Path and speed planning for smooth autonomous navigation". En: Workshop Navigation, Perception, Accurate Positioning and Mapping for Intelligent Vehicles. 06/2012.

24 **Title of the work:** Data-driven fractional PID control: application to DC motors in flexible joints
Name of the conference: IFAC Conference on Advances in PID Control PID'12
Type of event: Conference
Geographical area: Non EU International
Type of participation: 'Participatory - poster
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Brescia, Italy
Date of event: 03/2012
Organising entity: IFAC
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Villagrá Serrano; Blas Maria Vinagre Jara; Inés Tejado Balsera. "Data-driven fractional PID control: application to DC motors in flexible joints". En: Proceedings of the IFAC Conference on Advances in PID Control. pp. 709 - 714. 03/2012. ISBN 978-1-62748-324-7

25 **Title of the work:** Algoritmo Genético para Decisiones inteligentes en Cruces de Vehículos con Función de Coste Dinámica
Name of the conference: XVI Congreso Español sobre Tecnologías y Lógica Fuzzy (ESTYLF)
Type of event: Conference
Geographical area: National
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Valladolid, Castile and León, Spain
Date of event: 02/2012
Organising entity: Universidad de Valladolid
With external admission assessment committee: Yes
Type of contribution: Scientific paper

Enrique Onieva Caracuel; Jorge Villagrá Serrano; Vicente Milanés Montero; Jorge Godoy Madrid. "Algoritmo Genético para Decisiones inteligentes en Cruces de Vehículos con Función de Coste Dinámica". En: Actas del XVI Congreso Español sobre Tecnologías y Lógica Fuzzy (ESTYLF). pp. 301 - 306. 02/2012. ISBN 978-84-615-6653-2

26 **Title of the work:** Low Speed Control of an Autonomous Vehicle Using a Hybrid Fractional Order Controller
Name of the conference: 2nd International Conference on Control, Instrumentation, and Automation (ICCIA)
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Shiraz, Iran
Date of event: 12/2011
Organising entity: Iranian Society of Instrumentation and Control Engineers
With external admission assessment committee: Yes
Type of contribution: Scientific paper
S. Hassan HosseinNia; Onés Tejado Balsera; Blas María Vinagre Jara; Vicente Milanés Montero; Jorge Villagrá Serrano. "Low Speed Control of an Autonomous Vehicle Using a Hybrid Fractional Order Controller". En: Proceedings of the 2nd International Conference on Control, Instrumentation, and Automation. pp. 116 - 121. 12/2011. ISBN 978-1-4673-1689-7

27 **Title of the work:** LIDAR based perception solution for autonomous vehicles
Name of the conference: 11th International Conference on Intelligent Systems Design and Applications (ISDA)
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Córdoba, Andalusia, Spain
Date of event: 11/2011
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Raul Dominguez; Enrique Onieva Caracuel; Javier Aonso Ruiz; Jorge Villagrá Serano; Carlos González Fernández-Vallejo. "LIDAR based perception solution for autonomous vehicles". En: Proceedings of the 11th International Conference on Intelligent Systems Design and Applications. pp. 790 - 795. 11/2011. ISSN 2164-7143

28 **Title of the work:** ACC of a Commercial Vehicle Using Fractional Order Controllers for Throttle and Brake
Name of the conference: III Workshop ROBOT'11, Robótica Experimental
Type of event: Seminar
Geographical area: National
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Sevilla, Andalusia, Spain
Date of event: 11/2011
Organising entity: CATEC
With external admission assessment committee: Yes
Type of contribution: Scientific paper

Inés Tejado Balsera; S. Hassan HosseinNia; Blas María Vinagre Jara; Vicente Milanés Montero; Jorge Villagrá Serrano. "ACC of a Commercial Vehicle Using Fractional Order Controllers for Throttle and Brake". En: Actas de III Workshop ROBOT'11. pp. 496 - 503. 11/2011. ISBN 978-84-615-6787-4

29 **Title of the work:** An approach to Driverless Vehicles in Highways
Name of the conference: 14th International IEEE Conference on Intelligent Transportation Systems (ITSC)
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
City of event: Washington, United States of America
Date of event: 10/2011
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Vicente Milanés Montero; Enrique Onieva Caracuel; Joshué Manuel Pérez Rastelli; Jorge Godoy Madrid; Jorge Villagrá Serrano. "An approach to Driverless Vehicles in Highways". En: Proceedings of the 14th International IEEE Conference on Intelligent Transportation Systems. pp. 668 - 673. 10/2011. ISSN 2153-0009

30 **Title of the work:** Low Speed Control of an Autonomous Vehicle by Using a Fractional PI
Name of the conference: 18th IFAC World Congress
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Milano, Italy
Date of event: 09/2011
Organising entity: IFAC
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Inés Tejado Balsera; Vicente Milanés Montero; Jorge Godoy Madrid; S. Hassan HosseinNia; Blas Maria Vinagre Jara. "Low Speed Control of an Autonomous Vehicle by Using a Fractional PI". En: Proceedings of the 18th IFAC World Congress. pp. 15025 - 15030. 09/2011. ISBN 978-3-902661-93-7

31 **Title of the work:** Sistema de Guiado Automático para Altas Velocidades
Name of the conference: Seminario Anual de Automática, Electrónica Industrial e Instrumentación (SAAEI'12)
Type of event: Seminar
Geographical area: National
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Badajoz, Extremadura, Spain
Date of event: 07/2011
Organising entity: Universidad de Extremadura
Type of entity: University
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Vicente Milanés Montero; Enrique Onieva Caracuel; Joshué Manuel Pérez Rastelli; Jorge Godoy Madrid; Jorge Villagrá Serrano; Javier Alonso Ruiz. "Sistema de Guiado Automático para Altas Velocidades". En: Actas del Seminario Anual de Automática, Electrónica Industrial e Instrumentación (SAAEI'12). 07/2011. ISBN 978-84-933682-3-4

32 **Title of the work:** New algebraic techniques for estimation, diagnosis and automotive control
Name of the conference: Les journées Automatique et Automobile 2011
City of event: Bordeaux, Aquitaine, France
Date of event: 07/2011
Organising entity: Groupe de Recherche Automatique et Automobile
City organizing entity: France
Brigitte d'Andréa-Novel; Sungwoo Choi; Clément Boussard; Michel Fliess; Hugues Mounier; Jorge Villagrá Serrano.

33 **Title of the work:** Power Electric Aiding Controller for Automated Bus Stopping
Name of the conference: 7th International Conference-Workshop Compatibility and Power Electronics (CPE)
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Tallin, Estonia
Date of event: 06/2011
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Godoy Madrid; Vicente Milanés Montero; Joshué Manuel Pérez Rastelli; Jorge Villagrá Serrano; Carlos Gonzáez Fernández-Vallejo. "Power Electric Aiding Controller for Automated Bus Stopping". En: Proceedings of the 7th International Conference-Workshop Compatibility and Power Electronics. pp. 330 - 335. 06/2011. ISBN 978-1-4244-8805-6

34 **Title of the work:** A Reinforcement Learning Modular Control Architecture for Fully Automated Vehicles
Name of the conference: Computer Aided Systems Theory – EUROCAST 2011
Type of event: Conference
Geographical area: European Union
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Las Palmas de Gran Canaria, Canary Islands, Spain
Date of event: 02/2011
Organising entity: Universidad de las Palmas de Gran Canaria
Type of entity: University
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Villagrá Serrano; Vicente Milanés Montero; Joshué Manuel Pérez Rastelli; Jorge Godoy Madrid; Enrique Onieva Caracuel; Javier Alonso Ruiz; Carlos González Fernández-Vallejo; Teresa de Pedro Lucio; Ricardo García Rosa. "A Reinforcement Learning Modular Control Architecture for Fully Automated Vehicles". En: Extended Abstracts of Computer Aided Systems Theory – EUROCAST 2011. pp. 153 - 155. ISBN 978-84-693-9560-8

35 **Title of the work:** AUTOPIA Program Advances: How to Automate the Traffic?
Name of the conference: Computer Aided Systems Theory – EUROCAST 2011
Type of event: Conference
Geographical area: European Union
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
City of event: Las Palmas de Gran Canaria, Canary Islands, Spain
Date of event: 02/2011
Type of entity: University

Organising entity: Universidad de las Palmas de Gran Canaria
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Vicente Milanés Montero; Enrique Onieva Caracuel; Joshué Manuel Pérez Rastelli; Jorge Villagrá Serrano; Jorge Godoy Madrid; Javier Alonso Ruiz; Carlos González Fernández-Vallejo; Teresa de Pedro Lucio; Ricardo García Rosa. "Extended abstracts of Computer Aided Systems Theory – EUROCAST 2011". En: Extended abstracts of Computer Aided Systems Theory – EUROCAST 2011. pp. 148 - 149. ISBN 978-84-693-9560-8

36 **Title of the work:** Manoeuvres for driverless vehicles using GPS and Lidar Information in urban circuits
Name of the conference: Computer Aided Systems Theory – EUROCAST 2011
Type of event: Conference
Geographical area: European Union
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Las Palmas de Gran Canaria, Canary Islands, Spain
Date of event: 02/2011
Organising entity: Universidad de las Palmas de Gran Canaria
Type of entity: University
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Joshué Manuel Pérez Rastelli; Jorge Villagrá Serrano; Enrique Onieva Caracuel; Vicente Milanés Montero; Teresa de Pedro Lucio; Ljubo. Vlacic. "Manoeuvres for driverless vehicles using GPS and Lidar Information in urban circuits". En: Extended abstacts of Computer Aided Systems Theory – EUROCAST 2011. pp. 158 - 160. ISBN 978-84-693-9560-8

37 **Title of the work:** Traffic Light Intelligent Regulation Using Infrastructure Located Sensors
Name of the conference: Computer Aided Systems Theory – EUROCAST 2011
Type of event: Conference
Geographical area: European Union
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Las Palmas de Gran Canaria, Canary Islands, Spain
Date of event: 02/2011
Organising entity: Universidad de las Palmas de Gran Canaria
Type of entity: University
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Javier Alonso Ruiz; JOrge Godoy Madrid; ROberto Sanz Villa; Enrique Onieva Caracuel; Vicente Milanés Montero; Jorge Villagrá Serrano; Carlos González Fernández-Vallejo; Teresa de Pedro Lucio; Ricardo García Rosa. "Traffic Light Intelligent Regulation Using Infrastructure Located Sensors". En: Extended abstacts of Computer Aided Systems Theory – EUROCAST 2011. pp. 156 - 157. ISBN 978-84-693-9560-8

38 **Title of the work:** Implementación del control lateral sobre un vehículo de serie con servodirección eléctrica
Name of the conference: 8ª Workshop Robocity 2030-II, Robots de Exteriores.
Type of event: Seminar
Geographical area: Regional
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Arganda del Rey, Community of Madrid, Spain
Date of event: 12/2010
Organising entity: CSIC

With external admission assessment committee: Yes
Type of contribution: Scientific paper
Esteban de Torres Ribera; Jorge Villlagrá Serrano; Jorge Godoy Madrid; Teresa de Pedro Lucio. "Implementación del control lateral sobre un vehículo de serie con servodirección eléctrica". En: Actas del 8ª Workshop Robocity 2030-II, Robots de Exteriores. 12/2010. ISBN 978-84-614-5558-4

39 **Title of the work:** An algebraic approach for maximum friction estimation
Name of the conference: 8th IFAC Symposium on Nonlinear Control Systems (NOLCOS)
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Bologna, Italy
Date of event: 09/2010
Organising entity: IFAC
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Villagrá Serrano; Brigitte d'Andréa-Novel; Michel Fliess; Hugues Mounier. "An algebraic approach for maximum friction estimation". En: Proceedings of the 8th IFAC Symposium on Nonlinear Control Systems. pp. 885 - 890. 09/2010. ISBN 978-3-902661-80-7

40 **Title of the work:** Model-Free Control Techniques for Stop & Go Systems
Name of the conference: 13th IEEE Conference on Intelligent Transportation Systems (ITSC)
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Funchal, Região Autónoma da Madeira, Portugal
Date of event: 09/2010
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Villagrá Serrano; Vicente Milanés Montero; Joshué Manuel Pérez Rastelli; Carlos González Fernández-Vallejo. "Model-Free Control Techniques for Stop & Go Systems". En: Proceedings of the 13th IEEE Conference on Intelligent Transportation Systems. pp. 1899 - 1904. 09/2010. ISSN 2153-0009

41 **Title of the work:** Implementación de un sistema de localización para vehículos sin conductor
Name of the conference: Seminario Anual de Automática, Electrónica Industrial e Intrumentación (SAAEI'10)
Type of event: Seminar
Geographical area: National
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Bilbao, Basque Country, Spain
Date of event: 07/2010
Organising entity: Universidad del País Vasco
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Godoy Madrid; Vicente Milanés Montero; Joshué Manuel Pérez Rastelli; Jorge Villagrá Serrano; Teresa de Pedro Lucio; Carlos González Fernández-Vallejo. "Implementación de un sistema de localización para vehículos sin conductor". En: Actas del Seminario Anual de Automática, Electrónica Industrial e Intrumentación (SAAEI'10). 07/2010. ISBN 978-84-933682-3-4

42 **Title of the work:** Robust motion control for humanoid robot flexible joints
Name of the conference: 18th Mediterranean Conference on Control and Automation (MED)
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Marrakech, Morocco
Date of event: 06/2010
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Villagrá Serrano; Carlos Balaguer. "Robust motion control for humanoid robot flexible joints". En: Proceedings of the 18th Mediterranean Conference on Control and Automation. pp. 963 - 968. 06/2010. ISBN 978-1-4244-8091-3

43 **Title of the work:** An Algebraic Approach for Accurate Motion Control of Humanoid Robot Joints
Name of the conference: 2009 International Conference on Intelligent Robotics and Applications (ICIRA)
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Singapore, Singapore
Date of event: 12/2009
Organising entity: Nanyang Technological University and Huazhong University of Science and Technology
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Villagra Serrano; Carlos Balaguer. "An Algebraic Approach for Accurate Motion Control of Humanoid Robot Joints". En: Proceedings of the 2009 International Conference on Intelligent Robotics and Applications.

44 **Title of the work:** Robust flatness-based control of an AGV under varying load and friction conditions
Name of the conference: 7th International Conference on Control and Automation (ICCA)
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Christchurch, New Zealand
Date of event: 12/2009
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Vilagrá Serrano; David Herrero Pérez; Mohamed Abderrahim. "Robust flatness-based control of an AGV under varying load and friction conditions". En: Proceedings of 2009 International Conference on Control and Automation. pp. 1621 - 1628. 12/2009. ISBN 978-1-4244-4707-7

45 **Title of the work:** Model-free control of automotive engine and brake for Stop-and-Go scenarios
Name of the conference: 2009 European Control Conference
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No

City of event: Budapest, Hungary
Date of event: 08/2009
Organising entity: EUCA
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Michel Fliess; Hugues Mounier; Jorge Villagrá Serrano; Brigitte d'Andréa-Novel; Sungwoo Choi. "Model-free control of automotive engine and brake for Stop-and-Go scenarios". En: Proceedings of 2009 European Control Conference. 08/2009. ISBN 978-3-9524173-9-3

46 **Title of the work:** Mechatronic Design and control of a critical biped robot joint
Name of the conference: 2009 IEEE Conference on Mechatronics
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: No
City of event: Malaga, Andalusia, Spain
Date of event: 02/2009
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Luis Pabón; Carlos Pérez Martínez; Jorge Villagrá Serrano; Carlos Balaguer Bernaldo de Quirós. "Mechatronic Design and control of a critical biped robot joint". En: Proceedings of the 2009 IEEE Conference on Mechatronics. pp. 1 - 6. 04/2009. ISBN 978-1-4244-4195-2

47 **Title of the work:** Robust grey-box closed-loop stop and- go control
Name of the conference: 47th IEEE Conference on Decision and Control
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Cancun, Mexico
Date of event: 12/2008
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Villagrá Serrano; Brigitte d'Andréa-Novel; Michel Fliess; Hugues Mounier. "Robust grey-box closed-loop stop and- go control". En: Proceedings of the 47th IEEE Conference on Decision and Control. pp. 5378 - 5383. 12/2008. ISBN 978-1-4244-3124-3

48 **Title of the work:** Estimation of longitudinal and lateral vehicle velocities: an algebraic approach
Name of the conference: 2008 American Control Conference
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Seattle, United States of America
Date of event: 06/2008
Organising entity: AACC/IFAC
With external admission assessment committee: Yes
Type of contribution: Scientific paper

Jorge Villagra Serrano; Brigitte d'Andréa-Novel; Michel Fliess; Hugues Mounier. "Estimation of longitudinal and lateral vehicle velocities: an algebraic approach". En: Proceedings of the 2008 American Control Conference. pp. 3941 - 3946. 06/2008. ISSN 0743-1619

49 **Title of the work:** A realistic vehicle model for ESP-like control laws synthesis
Name of the conference: 2007 European Control Conference
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Kos, Greece
Date of event: 07/2007
Organising entity: EUCA
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Villagrá Serrano; Brigitte d'Andréa-Novel; Marco Pengov; Quentin Devouge; Matthieu Bössiger. "A realistic vehicle model for ESP-like control laws synthesis". En: Proceedings of the 2007 European Control Conference. 07/2007.

50 **Title of the work:** Une stratégie de commande basée sur la platitude pour les véhicules de type voiture
Name of the conference: 6th IEEE Conférence International Francophone d'Automatique
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Bordeaux, Aquitaine, France
Date of event: 05/2006
Organising entity: IEEE
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Vilagrá Serrano; Brigitte d'Andréa-Novel; Hugues Mounier; Marco Pengov. "Une stratégie de commande basée sur la platitude pour les véhicules de type voiture". En: Procceding of the 6th IEEE Conférence International Francophone d'Automatique. 05/2006.

51 **Title of the work:** Sensitivity based gains choice for a SDRE vehicle steering control strategy
Name of the conference: 2006 IFAC Workshop on Control Applications of Optimization
Type of event: Conference
Geographical area: Non EU International
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
Corresponding author: Yes
City of event: Cachan, Île de France, France
Date of event: 04/2006
Organising entity: IFAC
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Villagrá Serrano; Brigitte d'Andréa-Novel; Hugues Mounier; Marco Pengov. "Sensitivity based gains choice for a SDRE vehicle steering control strategy". En: Proceedings of the IFAC Workshop on Control Applications of Optimization (CA0'06). pp. 259 - 264. ENS CAchan, 04/2006.

52 **Title of the work:** Obstacle-avoiding path planning for high velocity wheeled mobile robots
Name of the conference: 16th IFAC World Congress
Type of event: Conference
Geographical area: Non EU International

Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
City of event: Prague, Praha, Czech Republic
Date of event: 07/2005
Organising entity: IFAC
Type of entity: International Federation of Automatic Control
City organizing entity: Prague, Czech Republic
Publication in conference proceedings: Yes
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Villagrá Serrano; Hugues Mounier. "Obstacle-avoiding path planning for high velocity wheeled mobile robots". En: Proceedings of the 16th IFAC World Congress. 16 - 1, pp. 1277 - 1277. Elsevier, 07/2005. ISBN 978-3-902661-75-3

53 **Title of the work:** A flatness based control methodology for car-like vehicles: application to obstacle avoiding situations
Name of the conference: 2005 Journées Automatique et Automobile
Type of event: Workshop
Geographical area: National
Type of participation: Participatory - invited/keynote talk
Reasons for participation: Upon invitation
Corresponding author: Yes
City of event: Bordeaux, Aquitaine, France
Date of event: 06/2005
Organising entity: ENSEIRB/Université Bordeaux 1
Type of entity: University Department
City organizing entity: Bordeaux, Aquitaine, France
With external admission assessment committee: Yes
Jorge Villagrá Serrano; Brigitte d'Andréa-Novel; Hugues Mounier; Marco Pengov. "A flatness based control methodology for car-like vehicles: application to obstacle avoiding situations". En: Proceedings of th2 2005 Journées Automatique et Automobile. 06/2005.

54 **Title of the work:** Calcul de sensibilités par la méthode des adjoints sur le modèle bicyclette d'une voiture
Name of the conference: 2002 Journées Doctorales d'Automatique
Type of event: Workshop
Geographical area: National
Type of participation: Participatory - oral communication
Reasons for participation: Review before acceptance
City of event: Valenciennes, Nord - Pas-de-Calais, France
Date of event: 06/2003
Organising entity: GdR MACS
Type of entity: Red de Investigación CNRS
City organizing entity: France
Publication in conference proceedings: Yes
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Jorge Villagrá Serrano. "Calcul de sensibilités par la méthode des adjoints sur le modèle bicyclette d'une voiture". En: Proceedings of the 2002 Journées Doctorales d'Automatique. (France): 06/2003. ISBN 2-90572-553-2

R&D management and participation in scientific committees

Scientific, technical and/or assessment committees

1 **Committee title:** Móvilidad segura más autónoma
Affiliation entity: Plataforma Tecnológica Española de Automoción y Movilidad (M2F)
City affiliation entity: Madrid, Community of Madrid, Spain
Start date: 01/2014

2 **Committee title:** Car2Car Communication Consortium
Affiliation entity: ETSI TC ITS
Start date: 23/05/2011

3 **Committee title:** IEEE Control Systems Society
Affiliation entity: IEEE
City affiliation entity: United States of America
Start date: 01/2009

4 **Committee title:** Comité Español de Automática (CEA)
Geographical area: National
City: Spain
Affiliation entity: IFAC
Start date: 13/06/2008

5 **Committee title:** GdR MACS - Groupe de Recherche Modelisation, Analyse et Conduite des Systemes Dynamiques
Affiliation entity: CNRS
City affiliation entity: France
Start date: 03/2006

Organization of R&D activities

1 **Title of the activity:** Member of the International Program Comiteee
Convening entity: 7th International Conference on Vehicle Technology and Intelligent Transport Systems (VEHITS)
City convening entity: Online streaming
Start-End date: 05/2021 - 05/2021

2 **Title of the activity:** Member of the International Program Comiteee
Geographical area: Non EU International
Convening entity: 2020 IEEE Intelligent Vehicle Symposium
City convening entity: Las Vegas, United States of America
Start-End date: 10/2020 - 11/2020

3 **Title of the activity:** Member of the International Program Comitee
Geographical area: European Union
Convening entity: 2020 IEEE Intelligent Transportation Systems Conference
City convening entity: Rhodes, Greece

Start-End date: 09/2020 - 09/2020

4 **Title of the activity:** Program Co-Chair
Geographical area: Non EU International
Convening entity: 2019 IEEE Intelligent Transportation Systems Conference
City convening entity: Auckland, New Zealand
Start-End date: 27/10/2019 - 30/10/2019

5 **Title of the activity:** Demonstration at S-Moving Forum with live TV coverage
Type of activity: Live Demostration
Convening entity: AYUNTAMIENTO DE MALAGA
Start-End date: 16/10/2018 - 18/10/2018

6 **Title of the activity:** Organization and participation in the 2018 IROS Autonomous Vehicles Demonstration event
Type of activity: Demonstration on Autonomous Vehicles
Convening entity: 2018 International Conference on Intelligent Robots (IROS)
Start-End date: 01/10/2018 - 03/10/2018

7 **Title of the activity:** Member of the International Program Committee
Type of activity: The 1st IEEE International Workshop on Reengineering for Parallelism in Heterogeneous Parallel Platforms
Convening entity: 13th IEEE International Symposium on Parallel and Distributed Processing with Applications (IEEE ISPA-15)
City convening entity: Helsinki, Finland
Start-End date: 08/2015 - 08/2015

8 **Title of the activity:** Member of the International Program Comitee
Type of activity: Workshop on Environment Perception and navigation for Intelligent Vehicles **Geographical area:** Non EU International
Convening entity: 2013 IEEE Intelligent Vehicles Symposium
City convening entity: Gold Coast, Australia
Start-End date: 23/06/2013 - 23/06/2013

9 **Title of the activity:** Demonstration of automatic control for vehicles in interurban scenarios
Type of activity: Public and widely publicized demonstration
City of event: Community of Madrid, Spain
Convening entity: Ministerio de Ciencia e Innovación **Type of entity:** Ministery
Type of participation: Organiser
Start-End date: 10/07/2012 - 10/07/2012

10 **Title of the activity:** Demonstration High speed CACC with lateral control
Type of activity: Demonstration **Geographical area:** Non EU International
Convening entity: 2012 IEEE Intelligent Vehicles Symposium
City convening entity: Alcalá de Henares, Community of Madrid, Spain
Start-End date: 07/06/2012 - 07/06/2012 **Duration:** 1 day

11 **Title of the activity:** Workshop "Navigation, Accurate Positioning and Mapping for Intelligent Vehicles"
Type of activity: Workshop setup and co-organization **Geographical area:** Non EU International

Convening entity: 2012 IEEE Intelligent Vehicles Symposium
City convening entity: Alcalá de Henares, Community of Madrid, Spain
Start-End date: 06/2012 - 06/2012 **Duration:** 6 months

12 **Title of the activity:** ACC demonstration at the Grand Cooperative Driving Challenge
Type of activity: Public R&D Demonstration **Geographical area:** European Union
Convening entity: TNO
City convening entity: Helmond, Holland
Start-End date: 14/05/2011 - 15/05/2011 **Duration:** 2 days

13 **Title of the activity:** Workshop Novel techniques for nonlinear estimation and control: mobile robots and automotive applications"
Type of activity: Workshop organization and talks
Convening entity: Robotics and Automation Master, Universidad Carlos III de Madrid
City convening entity: Leganés, Community of Madrid, Spain
Start-End date: 20/05/2009 - 27/05/2009 **Duration:** 7 days

14 **Title of the activity:** Workshop Novel techniques for nonlinear estimation and control: automotive applications"
Type of activity: Workshop organization and talks
Convening entity: Robotics and Automation Master, Universidad Carlos III of Madrid
City convening entity: Leganés, Community of Madrid, Spain
Start-End date: 12/05/2008 - 19/05/2008 **Duration:** 7 days

15 **Title of the activity:** Chair of an Industrial Forum
Geographical area: Non EU International
Convening entity: 2018 International Conference on Intelligent Robots (IROS)
City convening entity: Madrid, Community of Madrid, Spain
Start date: 02/10/2018

16 **Title of the activity:** Participation in a demonstration event on Autonomous Vehicles
Type of activity: Demonstration
Convening entity: 2018 IEEE International Conference on Vehicular Electronics and Safety
Start date: 14/09/2018

17 **Title of the activity:** Member of Technical Program Committee
Type of activity: 2018 IEEE Connected and Automated Vehicles Symposium
Convening entity: 2018 IEEE Vehicular Technology Conference
City convening entity: Chicago, United States of America
Start date: 08/2018

R&D management

Name of the activity: R&D Coordination
Type of management: Management of R&D&I actions and projects
Performed tasks: Coordination of activities in European Programmes. Writting of EU and national R&D proposals. Technical and administrative project management. Follow-up of strategic alliances with Universities and Research Centers. Management of a team of 7 people
Entity: Ixion Industry & Aerospace SI
Start date: 09/2013 **Duration:** 2 years - 2 months

National and international forums and committees

1 **Name of the forum:** Survey on Electronic Stability Program
Organising entity: Valeo-Sagem
City organizing entity: Paris, Île de France, France
Start-End date: 25/11/2015 - 25/11/2015

2 **Name of the forum:** Networking Nations - Scientific opportunities in the UK and Spain
Professional category: Speaker representing the Spanish excellence in the ITS field
Organising entity: The Royal Society- Fundación Ramón Areces
City organizing entity: Londres, Inner London, United Kingdom
Represented entity: Fundación Española para la Ciencia y la Tecnología **Type of entity:** Foundation
Start-End date: 28/11/2012 - 28/11/2012

Evaluation and revision of R&D projects and articles

1 **Name of the activity:** Reviewer of on-going EU-funded projects
Performed tasks: Annual Project Reviews for the European Comission for ICT (IoT) and Transport: COMPANION-610542 (2015 and 2016), ADAPTIVE - 610428 (2016 and 2017), AUTONET2030 - 610542 (2016), AUTOPILOT - 731993 (2017, 2018, 2019 and 2020), L3PILOT- 723051 (2019 and 2020)
Entity where activity was carried out: European Comission
Start-End date: 11/2016 - 12/2020

2 **Performed tasks:** Member of the Jury in the PhD disseration of Edouard Leurent
Entity where activity was carried out: Université de Lille
City of entity: Lille, France
Start-End date: 30/10/2020 - 30/10/2020

3 **Name of the activity:** Referee of articles
Performed tasks: Refereee of IEEE Transactions on Intelligent Transportation Systems, IEEE Transactions on Automation Science and Engineering, Control Engineering Practice, Transportation Research Board, Public Transportation, Transportation Research Part C, IEEE Transactions on Human-Machine Systems, Robotics and Autonomous Systems, International Journal of Robust and Nonlinear Control, IEEE Transactions on Vehicular Technology, IEEE Transactions on Control Systems Technology, Computers and Electronics in Agriculture, Vehicle System Dynamics, Asian Journal of Control, International Journal on Vehicle Autonomous Systems, Sensors, Applied Sciences, Electronics, IEEE Access, Revista Iberoamericana de Automática e Informática Industrial, International Conference on Robotics and Automation, IFAC World Congress, IEEE Intelligent Vehicles Symposium,IEEE Mediterranean Conference on Control and Automation, IEEE Conférence Internationale Francophone d'Automatique, IFAC European Control Conference, IEEE Mediterranean Control Conference, IEEE Vehicular Technology Conference, Multi-conference on Systems, Signals and Devices, Journées Nationales d'Automatique
Start-End date: 01/01/2004 - 31/12/2018

4 **Name of the activity:** "Agentes de control de vehículos autónomos en entornos urbanos y autovías"
Performed tasks: Member of the jury in the PhD Dissertation of Joshué Pérez Rastelli
Entity where activity was carried out: Universidad Complutense de Madrid **Type of entity:** University
City of entity: Madrid, Community of Madrid, Spain
Type of activity: Participation in panels **Frequency of the activity:** 1

Access system: By public merit **Geographical area:** National
Start-End date: 28/03/2012 - 28/03/2012

5 **Name of the activity:** In pursuit of Autonomous Distributed Satellite Systems
Performed tasks: Member of the Jury in the PhD dissertation of Carles Araguz
Entity where activity was carried out: Universitat Politècnica de Catalunya **Type of entity:** University
City of entity: Barcelona, Catalonia, Spain
Start date: 05/12/2019

6 **Name of the activity:** "Stability analysis for controller switching in autonomous vehicles"
Performed tasks: Member of the Jury in the PhD dissertation of Francisco Navas
Entity where activity was carried out: INRIA Paris **Type of entity:** Public Research Body
City of entity: Paris, Île de France, France
Geographical area: European Union
Start date: 28/11/2018

7 **Name of the activity:** "Decision-based motion planning for cooperative and autonomous vehicles"
Performed tasks: Member of the Jury in the PhD dissertation of Florent Altché
Entity where activity was carried out: Ecole des Mines de Paris **Type of entity:** University
City of entity: Paris, France
Access system: By public merit **Geographical area:** European Union
Start date: 30/08/2018

8 **Name of the activity:** Modelado de comportamiento de conductores con técnicas de inteligencia computacional
Performed tasks: Member of the Jury in the PhD dissertation of Alberto Diaz Alvarez
Entity where activity was carried out: Universidad Politécnica de Madrid.
City of entity: Madrid, Community of Madrid, Spain
Access system: By public merit
Start date: 24/07/2018

9 **Performed tasks:** Evaluator of the Ramon y Cajal and Juan de la Cierva Programs
Entity where activity was carried out: Agencia Nacional de Evaluación y Prospectiva **Type of entity:** Ministerio
Start date: 10/04/2018

Other achievements

Obtained grants and scholarships

1 **Name of the grant:** Post-doctoral fellowship JAE-Doc in Systems Engineering and Automatic Control.
Aims: Post-doctoral
Awarding entity: Consejo Superior de Investigaciones Científicas
Type of entity: State agency
Conferral date: 10/2009
Duration: 3 years
End date: 09/2012

2 **Name of the grant:** Post-doctoral fellowship in artificial complex systems
Aims: Post-doctoral
Awarding entity: Conseil Regional Ile de France
Type of entity: Regional agency
Conferral date: 01/2007
Duration: 1 year - 6 months
End date: 06/2008

3 **Name of the grant:** CIFRE doctoral fellowship
Aims: Pre-doctoral
Awarding entity: Assocation Nationale de la Recherche et de la Technologie
Type of entity: State agency
Conferral date: 10/2003
Duration: 3 years
End date: 09/2006

Prizes, mentions and distinctions

1 **Description:** 1st Prize at 2018 SEAT Autonomous Driving Challenge
Awarding entity: CARNET
Type of entity: Associations and Groups
City awarding entity: Madrid, Community of Madrid, Spain
Conferral date: 24/11/2018

2 **Description:** 2nd Prize at 2017 SEAT Autonomous Driving Challenge
Awarding entity: CARNET
Type of entity: Associations and Groups
City awarding entity: Barcelona, Catalonia, Spain
Conferral date: 16/11/2017

3 **Description:** Best entrepreneurship project –FlockMob- in City of the Future category of Pasion IE Contest
Awarding entity: Accentur & IE Bussiness School
City awarding entity: Madrid, Community of Madrid, Spain
Conferral date: 24/05/2012

4 **Description:** Best PhD in Automatic control in France
Awarding entity: Centre Nationale pour la Recherche Scientifique
City awarding entity: France
Conferral date: 04/2007