

## Part A. PERSONAL INFORMATION

CV date

03/09/2019

|                       |                           |                     |    |
|-----------------------|---------------------------|---------------------|----|
| First and Family name | Segundo Esteban San Román |                     |    |
|                       |                           | Age                 | 46 |
| Researcher numbers    | Researcher ID             | L-1973-2014         |    |
|                       | Orcid code                | 0000-0002-4071-2147 |    |

### A.1. Current position

|                                |                                                              |        |                                                      |
|--------------------------------|--------------------------------------------------------------|--------|------------------------------------------------------|
| Name of University/Institution | Universidad Complutense de Madrid                            |        |                                                      |
| Department                     | Arquitectura de Computadores y Automática (DACYA)            |        |                                                      |
| Address and Country            | Fac. CC. Físicas, Avda. Complutense s/n, 28040-Madrid, Spain |        |                                                      |
| Phone number                   | +34-913944105                                                | E-mail | <a href="mailto:sesteban@ucm.es">sesteban@ucm.es</a> |
| Current position               | Associate Professor                                          | From   | DACYA                                                |
| Espec. cód. UNESCO             | 120702, 331102                                               |        |                                                      |
| Palabras clave                 | Control System Engineering                                   |        |                                                      |

### A.2. Education

| PhD             | University                        | Year |
|-----------------|-----------------------------------|------|
| Physic Sciences | Universidad Complutense de Madrid | 2002 |
|                 |                                   |      |

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

Google Scholar Citations:

|           | All | Since 2013 |
|-----------|-----|------------|
| Citations | 533 | 174        |
| h-index   | 11  | 7          |
| i10-index | 17  | 5          |

73 publications.

5 Q1 publications.

1 Ph. Thesis direction.

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

Ph. Degree in Physics by the Universidad Complutense de Madrid in 2002. The Thesis was focused on stabilization control of fast ships.

Director of 1 Ph. Thesis focused on a distributed control system applied to fast ships.

66 international publications in scientific media, 11 articles indexed in JCR (5 Q1).

Active member of 11 research projects (national and international funding).

Main head of 3 transfer technologies contract with INTA, to develop the Attitude Control Systems of Satellites. In this subject the most significant contribution has been the design, development, in flight qualification and maintenance of the Attitude Control Software (ACS) of the satellite "INTA Nanosat-1B" (launched in 2009 and maintained until 2015).

Member of 6 transfer technologies contract with international companies (RESPSOL, INDRA, AIRBUS, COFARES, GRANTECAN, ...)

Actually, his research is focused on control of Small Satellites, analyzing the viability of flying formations with electric propulsion.

3 Reserch 6-years Positive Evaluation (last in 2016)

## Part C. RELEVANT MERITS

In years 2016 and 2017 he has developed the "Volume Phase Holographic gratings" (VPHs) positioner control to the MEGARA instrument of the Great Telescope of Canarias (GRANTECAN). This system requires a very high precision control of a 500Kg wheel used to the HPVs insertion. The instrument is currently operative in GRANTECAN.

The most significant contribution has been the design, development, in flight qualification and maintenance of the Attitude Control Software (ACS) of the satellite "INTA Nanosat-1B" (launched in 2009 and maintained until 2015).

From 2008 to 2015 gave support to the INTA in Attitude Control System for Nanosat-1, Nanosat-2 and Microsat-1 missions.

From 2002 to 2006 has directed a Ph. Thesis on a distributed control system to stabilize fast ships. An autonomous ship with distributed control systems was developed during this research. Experimental validation of the autonomous ships were developed at CEHIPAR facilities.

From 1997 to 2002 has done his Ph. Degree focused on stabilization control of fast ships. A towed ship was instrumented to validate the results with experiments at CEHIPAR facilities.

From 1997 to 2001 has been active member of the SIGLO tool for optimization of the gas distribution of REPSOL Company.

### C.1. Publications (including books)

| Authors, Title, Publication, Volume, Number, Pages, Year, Publisher                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Esteban, Segundo; Girón-Sierra, Jose; Polo, Óscar; Angulo, Manuel; ,Signal Conditioning for the Kalman Filter: Application to Satellite Attitude Estimation with Magnetometer and Sun Sensors, Sensors, 16, 11, 1817, 2016, Multidisciplinary Digital Publishing Institute |
| Polo, Óscar R; Esteban, Segundo; Cercos, Lorenzo; Parra, Pablo; Angulo, Manuel; ,End-to-end validation process for the INTA-Nanosat-1B Attitude Control System, Acta Astronautica, 93, 94-105, 2014, Pergamon                                                              |
| Cercos Pita, L; Esteban San Roman, S; Giron-Sierra, J; Rivas, Jorge; Vicente, P; Angulo, Manuel; ,Getting more Performance from INTA NanoSat-1B Truncated Pyramid Sun Sensors, IEEE SENSORS JOURNAL, 14, 6, 1867-1877, 2014, IEEE                                          |
| Piorno, Joaquín Recas; San Roman, Segundo Esteban; Giron-Sierra, Jose Maria; de la Cruz Garcia, Jesus Manuel; ,Fast ship electronic system for seakeeping experimental studies, IEEE Transactions on Instrumentation and Measurement, 58, 10, 3427-3433, 2009, IEEE        |
| De la Cruz, J; Aranda, Joaquin; Giron-Sierra, Jose M; Velasco, Francisco; Esteban, Segundo; Diaz, Jose M; de Andres-Toro, Boniofacio; ,Improving the comfort of a fast ferry, IEEE control systems, 24, 2, 47-60, 2004, IEEE                                               |
| Esteban, Segundo; Giron-Sierra, Jose M; Recas, Joaquin; De la Cruz, Jesus M; ,Frequency-domain analysis for prediction of seasickness on ships, Marine                                                                                                                     |

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| technology,42,4,192-198,2005,Society of Naval Architects and Marine Engineers (SNAME)                                                                                                                                                                                         |
| Giron-Sierra, JM; Recas, J; Esteban, S; , "Iterative method based on CFD data for the assessment of seakeeping control effects, considering amplitude and rate saturation", International Journal of Robust and Nonlinear Control,21,13,1562-1573,2011,Wiley Online Library   |
| Giron-Sierra, Jose M; Esteban, Segundo; , The problem of quiescent period prediction for ships: A review, IFAC Proceedings Volumes,43,20,307-312,2010,Elsevier                                                                                                                |
| Angulo, Manuel; Seoane, Laura; Molina, Elisa; Prieto, Manuel; Rodriguez, Oscar; Esteban, Segundo; Palau, Jordi; Cornara, Stefania; INTA $\mu$ Sat-1 First Earth Observation Mission, Small Satellite Missions for Earth Observation,29-45,2010,"Springer, Berlin, Heidelberg" |
| Giron-Sierra, Jose M; Esteban, Segundo; , Frequency domain study of longitudinal motion attenuation of a fast ferry using a T-foil, IFAC Proceedings Volumes,41,2,15004-15009,2008,Elsevier                                                                                   |

## C.2. Research projects and grants

Member of the research group ISCAR at UCM, with active collaboration in 11 competitive research projects. The most recent I+D project are:

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| <p>Main researcher: Armando Gil de Paz<br/> Reference: CONV67/09-19057<br/> TÍTULO DEL PROYECTO: "Contrato para la realización del diseño final del instrumento MEGARA para el Gran Telescopio de Canarias" y "Contrato para la fabricación y puesta en marcha del instrumento MEGARA para el GTC"<br/> Funding Entity: Gran Telescopio de Canarias<br/> Dates: 28/04/2014-30/04/2018</p> |
| <p>Main researcher: J.M. Cruz, G. Pajares<br/> Reference: RTC-2014-2306-5<br/> Title: Sistema Autónomo para Contención de Vertidos en el Mar (SAVEMAR)<br/> Funding Entity: Ministerio de Economía y Competitividad<br/> Dates: 01/07/2014-31/12/2017</p>                                                                                                                                 |
| <p>Main researcher: J.M. Cruz<br/> Reference: DPI2013-46665-C02-01-R<br/> Title: Sistema autónomo para la localización y actuación ante contaminantes en el mar (SALACOM).<br/> Funding Entity: Ministerio de Economía y Competitividad<br/> Dates: 01/01/2014-31/12/2016</p>                                                                                                             |
| <p>Main researcher: J.M. Cruz<br/> Reference: DPI2009-14552-C02-01<br/> Title: Sistema de vigilancia, búsqueda y rescate en el mar mediante colaboración de vehículos autónomos marinos y aéreos.<br/> Funding Entity: Ministerio de Economía y Competitividad<br/> Dates: 01/01/2010-31/12/2013</p>                                                                                      |

### **C.3. Contracts**

Member of 6 contracts with international companies (RESPSOL, INDRA, AIRBUS, COFARES, GRANTECAN, ...).

Director of 3 contract with INTA to give support on Attitude Control of system for Satellites.

### **C.4. Patents**

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