



## Fellowships and awards

Grant for a short stay at Queen Mary University of London (QMUL) (given by Universidad Autonoma de Madrid)	London, UK
Topic: Performance evaluation of video object tracking without ground-truth	May-August 2010
Topic: Video object tracking based on feedback information	May-August 2009
Grant for excellent entrepreneur skills (given by Comunidad de Madrid)	Madrid, Spain 2008
Grant for excellent academic performance to postgraduate studies (given by Universidad Autonoma Madrid)	Madrid, Spain 2006-2008
Grant for excellent academic performance to degree studies (given by Comunidad de Madrid)	Madrid, Spain 2004-2006

## Relevant courses to the Ph. D. program

PhD Program on Signal, Systems and Radiocomunications (Universidad Politecnica of Madrid)	Madrid, Spain
• Introduction to geometrical signal processing (9h) Lecturer: Philippe Salembier, Universitat Politècnica de Catalunya (Spain)	2007
• Next-Generation broadband networks (15h) Lecturer: B. Bing, School of ECE, Georgia Institute of Technology (USA)	2007
• 3D Video Processing and Coding (10h) Lecturer: Alioschja Smolic, Disney Research (Switzerland)	2010
PhD Program on Computer Science and Telecommunication (Universidad Autonoma of Madrid)	Madrid, Spain
• Image processing and representation using level sets (4h) Lecturer: Philippe Salembier, Universitat Politècnica de Catalunya (Spain)	2007
• Multimedia Content Adaptation for Universal Acces (10h) Lecturer: Christian Timmerer, Klagenfurt University (Austria)	2008
• Wavelet: Theory and applications (20h) Lecturer: Philippe Salembier, Universitat Politècnica de Catalunya (Spain)	2008
Universidad Autonoma of Madrid	Madrid, Spain
• English for Information Communication Technologies (ICT) (120h) Lecturer: Esme Prentice, Universidad Autonoma de Madrid (Spain)	2007-2008

Assistance to the seminars on selected topics of Computer Science and Telecommunication during the academic years 2006-2007, 2007-2008, 2008-2009 and 2009-2010 given in the Escuela Politécnica Superior, Universidad Autónoma de Madrid, Madrid. (51h)

## Project advisor

MSc. in Computer Science (4 years, Universidad Autonoma of Madrid)	
- Distributed video processing for surveillance applications (Student: Marcos Collado)	2009
- Multimedia management for distributed video analysis (Student: Javier Canales)	2010
- Context-based distributed video surveillance analysis (Student: Gonzalo Arrivi)	2010

<i>MSc. in Telecommunication Engineering (5 years, Universidad Autonoma of Madrid)</i>		
- 2D Object recognition based on shape features ( <i>Student: Ulya Bayram</i> )		2009
- Stolen/Abandoned object detection in video surveillance ( <i>Student: Alvaro Bayona</i> )		2009
- Shadow and reflection detection for video-surveillance ( <i>Student: Hector Cabrejas</i> )		2010
- Background extraction in crowded video sequences ( <i>Student: Alberto Muñoz</i> )		Present
- Contour-based stolen/abandoned object detection ( <i>Student: Luis Caro</i> )		Present
- Comparative evaluation of video object trackers ( <i>Student: Monica Lozano</i> )		Present

## Talks

### Signal processing for security systems summer School (Universidad Autónoma de Madrid)

- Seminar: Stolen/Abandoned Object detection in video-surveillance (4h) 16/07/2008
- Seminar: Stolen/Abandoned Object detection in video-surveillance (4h) 17/07/2010

### Conferences

- Talk: "Robust Unattended and Stolen Object Detection by Fusing Simple Algorithms" (AVSS)  
Place, date and conf.: Santa Fe (NM, USA), 1 September 2008, AVSS2008
- Talk: "On the evaluation of background subtraction algorithms without ground-truth"  
Place, date and conf.: Boston (USA), 30 August 2010, AVSS2010
- Talk: Evaluation of on-line quality estimators for object tracking  
Place, date and conf.: Hong Kong (China), 29 September 2010, ICIP2010

## Skills

**Programming Languages:** Pascal, C/C++, MFC, Matlab, Java, Javascript, HTML, MySQL, PHP, VHDL, Pspice, basic of 8086 Assembler.

**Operating Systems:** Linux, Unix, Windows (9x, 2000, XP).

**Image Processing tools:** OpenCV, Matrox Imaging Library, DirectShow.

**Development environments:** Microsoft Visual Studio for C and C++ applications, NetBeans and Borland, JBuilder for Java applications, Xilinx Foundation for VHDL components design.

**Semantic Web standards and tools:** XML, RDF, OWL, Protégé.

## Languague skills

**Spanish:** Mother tongue

**English:** speaking (interm.), understanding (upper-interm.) and writing (upper-interm.)

**French:** Basic understanding

## Additional information

**Driving license**

**Availability to travel/work abroad**

**Interests**

- **Academic:** Surveillance systems, computer vision, data analysis, image processing,
- **Sports:** Amateur football player for 15 years. Amateur runner for 10 years.

## List of Publications

### Journal Papers

1. J. C. SanMiguel, J. M. Martínez, “**On the use of feedback strategies in the detection of events in video surveillance**”, IET Computer Vision (accepted), 2011.

### Refereed Conference papers

1. J. C. SanMiguel, J.M. Martínez, “**On the effect of motion segmentation techniques in description based adaptive video transmission**”, in Proc. of the 2007 IEEE Int. Conf. on Advanced Video and Signal based Surveillance, AVSS’2007, London (UK), September 2007. pp. 359-364.
2. J.C. SanMiguel, J.M. Martínez, “**On-Line Adaptive Video Sequence Transmission Based on Generation and transmission of Descriptions**”, in the 26th Picture Coding Symposium, PCS’2007, Lisbon (Portugal), November 2007. 4 pages
3. J.C. SanMiguel, J. Bescós, J. M. Martínez y A. García, “**DiVA: a Distributed Video Analysis framework applied to video-surveillance systems**”, in 9th International Workshop on Image Analysis for Multimedia Interactive Services, WIAMIS’2008, Klagenfurt (Austria), May 2008. pp. 207-211.
4. J.C. SanMiguel, J. M. Martínez, “**Robust unattended and stolen object detection by fusing simple algorithms**”, in Proc. of the 2008 IEEE Int. Conf. on Advanced Video and Signal based Surveillance, AVSS’2008, Santa Fé (USA), September 2008, pp. 18-25.
5. J.C. SanMiguel, J. M. Martínez, A. Garcia “**An Ontology for Video Event Detection and Its Application to Surveillance Video**”, in Proceedings of the 2009 IEEE Int. Conf. on Advanced Video and Signal based Surveillance, AVSS’2009, Geneva (Italy) September 2009. pp. 220-225.
6. A. Bayona, J. C. SanMiguel, J. M. Martínez, “**Comparative evaluation of stationary foreground object detection algorithms based on background subtraction techniques**”, in Proceedings of the 2009 IEEE Int. Conf. on Advanced Video and Signal based Surveillance, AVSS’2009, Geneva (Italy), September 2009. pp. 25-30.
7. J.C. SanMiguel, J. M. Martínez “**Shadow Detection in video surveillance by maximizing the agreement between independent detectors**”, in Proc. of the 2009 IEEE Int. Conf. on Image Processing, ICIP’2009, El Cairo (Egypt), November 2009, pp. 1141-1444.
8. J.C. SanMiguel, J. M. Martínez “**Dynamic video surveillance systems guided by domain ontologies**”, in Proc. of The 3rd Int. Conf. on Imaging for Crime Detection and Prevention (ICDP-09), London (UK), December 2009, P33, 6 pp.
9. J.C. SanMiguel, A. Cavallaro, J. M. Martínez “**Evaluation of on-line quality estimators for object tracking detectors**”, in Proc. of 2010 IEEE Int. Conf. on Image Processing, Hong Kong (China), September 2010, pp. 825-828.
10. Á. Bayona, J. C. SanMiguel y J. M. Martínez “**Stationary foreground detection using background subtraction and temporal difference in video surveillance**”, in Proc. of 2010 IEEE Int. Conf. on Image Processing, Hong Kong (China), September 2010, pp. 4657-4660.
11. J.C. SanMiguel y J. M. Martínez. “**On the evaluation of background subtraction algorithms without ground-truth**”, en Proceedings of 2010 IEEE Int. Conf. on Advanced Video and Signal based Surveillance, Boston (USA), September 2010, pp. 180-187

### Technical reports

1. J. C. SanMiguel, J. Molina, Á. García, J. Bescós and J. M. Martínez, “**Domain ontology design**”, Technical Report Num. SemanticVideo.TR.2008.01, 2008.
2. R. Martin-Nieto, J. C. SanMiguel and J. M. Martínez, “**Evaluation report of event detection algorithms for video surveillance systems**”, Technical Report Num. SemanticVideo.TR.2009.01, 2009.
3. A. García, J. C. SanMiguel, V. Fernández-Carbajales, M. García, J. M. Martínez, “**Event detection for the TRECVID 2009 video surveillance dataset: the VPULab-UAM contribution**”, Technical Report Num. SemanticVideo.TR.2009.02, October 2009.