

## CURRICULUM VITAE

### PERSONAL DETAILS

Name : Prof. Sergio A. VELASTIN (BSc., MSc., PhD., CEng., SMIEEE, FIET)  
Address : Dept. de Informática, Universidad Carlos III de Madrid, Av. De la Universidad,  
Leganés, Madrid, Spain  
Tel : +44 7946 580 982 (UK mobile)  
E-mail : [sergio.velastin@ieee.org](mailto:sergio.velastin@ieee.org) [sergio.velastin@theiet.org](mailto:sergio.velastin@theiet.org)  
Web page : <https://scholar.google.es/citations?user=FsE86kwAAAAJ&hl=en>  
Date of Birth : 10.May.1956  
Nationality : British/Chilean  
Driving : Full European Licence up to D1E  
IEEE/IET : 01259217 / 21957793  
ORCID : 0000-0001-6775-1737  
Citations : <http://velastin.dynu.com/savcv/citations.bib>  
This CV : <http://velastin.dynu.com/savcv/cvVelastin.pdf>

### MAIN HIGHLIGHTS

- Fellow of the Institution of Engineering and Technology (FIET), UK and Senior Member IEEE
- UK Chartered Engineer
- Full Professor (UK) of Applied Computer Vision
- Visiting Professor at Queen Mary University of London
- Creator of the International Conference on Pattern Recognition Systems (ICPRS)
- Past president and now Director for International Relations of the Chilean Association of Pattern Recognition
- International experience in Higher Education Institutions
- Marie Curie Research Professor (2015-2018)
- Member of International Advisory Boards at two leading universities in Malaysia: UM and UKM, QS-ranked 167 and 279 respectively.
- From 2000-2011, brought in €3.2M in external funding to Kingston University.
- Created two MSc courses (Kingston University) and helped marketing them for international students (India, South East Asia, Europe)
- Directed and managed an internationally-known research team (Digital Imaging Research Centre, Kingston University) of about 45 people (13 academic staff and 32 PhD students).
- Co-founder (2001) of Ipsotek Ltd (<http://www.ipsotek.com>), a well-known SME of video analytics systems, currently employing 45+ people. Winner of "CCTV System of the Year" IFSEC 2012 award for its "Tag and Track multi camera tracking system", done in conjunction with Kingston University and British Aerospace. Created the company and brought in a major project with a European Metro (€250K, 2003) and then a first round of private investment (€1M, 2005).
- Associate Editor of the IET's Computer Vision research journal.
- Technical coordinator of a major international project (EU-PRISMATICA, 2000-2003)
- Google Scholar: 5862 total citations (3416 since 2012), 724 citations for 2005 paper in IET Vision, Image and Sign. Proc. Journal, and h-index of 34<sup>1</sup>
- Conference Chair/Technical Chair (IDSS, ICDP, VIE, LACNEM, IVC, IPR, CCPR, ICPRS)
- Regular reviewer for CVIU, IET Electronic Letters; IET Computer Vision, IET Image Processing, Int J. of Robotics and Control, Machine Vision Applications, IEEE Trans Image Processing, EURASIP J Image and Video Processing, ICV, IEEE Trans. Intelligent Transport Systems, Int. J. Imaging Systems and Technology, Pattern Recognition and major conferences (CVPR, IVIC, ICPR, ECCV, etc.)
- Past elected member of the Board of Governors of the IEEE's Intelligent Transportation Systems Society.
- Creator of ViHaVi and MuHAVi human action recognition datasets requested for use by 270+ researchers worldwide.
- Past Chair IET's Vision and Imaging Professional Network

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<sup>1</sup> Source: Google Scholar (13.10.17)

- Creator and organiser of IET's International Conference on Imaging for Crime Detection and Prevention (ICDP), 7<sup>th</sup> ICDP held in November 2016 in Madrid, <http://www.icdp-conf.org>
- Chair of International Conference on Pattern Recognition Systems, <http://www.icprs.org> 2016
- Keynote speaker (ISVC, LACNEM, IVC, PANAM, IEEE Fusion)
- Guest Editor Special Issue Journal of Journal of Electronic Imaging (SPIE), 2015
- In addition to working experience in academia and as an entrepreneur, I have experience in industry as systems engineer and software manager.

## UNIVERSITY EDUCATION

- 1979..1982: PhD: Digital Processes Group, Department of Electrical Engineering and Electronics, UMIST. Thesis: "Software Development for a Vision System". Main application areas: pedestrian tracking, vehicular traffic, industrial inspection. Degree recognised in Chile by University of Chile ("Doctor en Ciencias con mención en Computación", 2013)
- 1978..1979: MSc. (Research): Digital Processes Group, Department of Electrical Engineering and Electronics, UMIST. Thesis: "Development of Software Techniques for the Analysis of Pedestrian Flow in Interior Circulation Areas".
- 1975..1978: BSc. in Electronics, Department of Electrical Engineering and Electronics, UMIST. Qualifications: Honours, First Class.

## MAIN PROFESSIONAL AND ACADEMIC ACTIVITIES:

- 2015..: UC3M-Conex Marie Curie Research Professor (project CLOSEVU: Close View Understanding, co-funded by the European Union's Marie Curie Programme and Banco Santander), Department of Computer Science, Universidad Carlos III de Madrid, Spain
- 2014..2014: Senior Research Fellow, Queen Mary University of London (working on EU Projects LASIE and REVERIE), 6 months
- 2013..2015: Research Full Professor (now Visiting Professor), Department of Informatic Engineering, Universidad de Santiago de Chile. Main duties: supervision of research students, procurement of externally-funded research projects, teaching Computer Vision module for Informatic Engineering degree (last year).
- 2010..2012: Professor of Applied Computer Vision, Kingston University (now Visiting Professor). UK
- 2007..2012: Director, Digital Imaging Research Centre, School of Computing and Information Systems, Kingston University
- 2001..: Co-founder of Ipsotek Ltd., CEO and Director of Research. Now consultant on research.
- 2001..2009: Reader (Associate Professor), Digital Imaging Research Centre, Faculty of Computing, Information Systems and Mathematics, Kingston University.

Main teaching modules: Java Programming, Computer Vision, Introduction to Computing (ICT), assist in the coordination of final year projects. Conception and Programme leader of MSc in Embedded Systems and MSc in Computer Vision and Image Analysis. Module leader for Digital Signal Processing and Digital Signal Processors.

Main administrative duties: Course Director: MSc in Embedded Systems and MSc in Computer Vision (also conceived these two courses), member of University Research Ethics Committees, Chair of Faculty's Research Ethics Committee, member of Faculty Research Committee, Member of inter-faculty Electronics Developments Steering Committee, Member of the Faculty of Engineering's Mechatronics Industrial Advisory Group, fully revised and implemented new guidelines for MSc projects.

Research Student Supervision (PhD): Co-Supervisor for "Video-based Human Action Recognition using Deep Learning", (Huy-Hieu Pham at Cerema and Paul Sabatier University,

France), Director of Studies for: "Tracking people in crowds across multiple cameras" (Damien Simmonet, completed), "Identification of unusual behaviour in crowds" (Beibei Zhan, completed), "Distributed Architecture for Visual Surveillance Systems" (Valera, Completed), "Multi camera tracking" (F Yin, completed), "Optimisation of visual surveillance algorithms using Digital Signal Processors" (Virk), "Visual surveillance for road traffic monitoring" (Buch, completed), "Tag and Track in multi-camera networks" (Colombo, completed).

1990..2001: Lecturer, Department of Electronic Engineering (Division of Engineering), King's College London. Senior Lecturer from September 1999.

Main teaching modules: Computer Programming, Software Systems, Product Development, Linear Circuits, Signals and Signal Processing, MATLAB labs, Computer Engineering II.

Main administrative duties: MSc. Organiser (Research stream: Computer Vision Engineering), Team Leader of the "Vision and Robotics Laboratory", Divisional IT Manager (350 desktops, 40+ Unix workstations, 2 Novell Servers, 11 Unix servers, 1 NT server, 600 users), Curricular design for subject area "Software Systems", Coordinator of an ERASMUS/Socrates exchange programme, Organiser of final year projects, Programme Leader for MEng/BEng degree "Computer Systems and Electronics" (CSE).

Research supervision (PhD), all completed: "Mahalanobis Distance Hough Transform with Extended Kalman Filtering", "Transputer-based computer architectures for cooperating robots", "Crowd monitoring using image processing", "Towards verification of MASCOT designs using Petri Nets", "Coloured Petri Nets for software design verification", "Modelling and Verification of MASCOT designs using LOTOS", "Real-time motion estimation for complex image scenes", "Pedestrian detection, tracking and behaviour classification".

1989..1990: Software Manager, Rosand Precision Ltd. Responsible for real-time software/firmware design and approval of final issues. Direct involvement with C (Windows, MS-DOS, Z80), Assemblers (Intel xx86, Z80), Pascal (MS-DOS), Source Code Control, PC hardware, worldwide customer support, software documentation, supervision of junior staff and contractors.

1988..1989: Senior Systems Engineer, Terrafix Ltd. (Land Navigation Systems). Basic research (Kalman filters), system design and implementation of dedicated Land Navigation System (vehicle location). Then, promoted to Software Manager (responsible for all the company's software products).

1986..1987: Senior Scientific Officer, Clinical Psychology Department, North Staffordshire Health Authority. Re-design of dedicated microprocessor system/PROLOG software for automated administration of standard intelligence tests.

1985..1986: Professor, Institute of Informatics, Universidad Austral de Chile (UACH), Valdivia, Chile.

Main teaching modules: Linear Systems Theory, Control systems.

Main administrative duties: Head of Engineering Group, Head of the Institute (15 academic staff), curricular design, member of university's Informatics Committee (short and long-term computing strategy for the university).

1982..1984: Research Fellow in Robotics, Department of Electronic and Electrical Engineering, University of Surrey. SERC-sponsored project: "The Programming and Control of Adaptive Industrial Robots". Design and Development of dedicated digital controller (hardware and software) for the HAL-90 Spraying Robot. Mathematical modelling (through symbolic programming) of robot kinematics. Vision sensors. Numerical simulation, 3-D graphics.

## RESEARCH GRANTS

1. CLOSEVU: Close View Understanding, co-funded by the **European Union's Marie Curie Programme** and Banco Santander), Department of Computer Science, Universidad Carlos III de Madrid, Spain, from Sept. 2015, duration 3 years.
2. LASIE: Large Scale Information Exploitation of Forensic Data , **European Commission** Framework 7 Security Programme, Duration 42 months, (17 partners), 42 months from May 2014, helped with conception and proposal, linked to Queen Mary University of London (€800K). Now advisor.
3. Chair of Excellence, Departamento de Informática, Universidad Carlos III de Madrid, Spain, funded by **Banco Santander**, Duration 6 months, started Feb. 2014, €60,000
4. OBSERVE (On-Board Surveillance for Effective Response in Vehicle Environments), funded by the **Chilean National Science and Technology Council** (Conicyt), Fondecyt Programme grant no. 1140209, Duration 3 years, started March 2014, in collaboration with University College London, INRIA, TecnoAccion, Chilean Ministry of Transport and Kingston University, €90,000
5. "Autonomous Pedestrian Detection", **Chilean Research Council**, P. Zegers (PI, Universidad de Los Andes), S.A. Velastin (Kingston University, International Collaborator), Duration 36 months, started March 2012.
6. ADDPRIV, STREP Project funded by the **European Commission** Framework 7, Duration 36 months, started December 2010 €400,000
7. SieVe, "Surveillance Video Data Mining", **EPSRC** (UK Research Council), Industrial Case with BAE Systems Ltd., J. Orwell and S.A. Velastin, Value €100,000, Duration 42 months (2010)
8. HAR, "Human Action Recognition", Industry, Contracted Research with Industrial Collaborator (**Bosch Research Labs**), S.A. Velastin, J.-C. Nebel and F Martinez, Value €135,000, Duration 6 months (2010)
9. PROTECTRAIL (Protection of European Railways from Security and Safety Threats), Integrated Project funded by the **European Commission** Framework 7 (€13M total, €100,000 for KU). 25 partners including major railway operators and manufacturers. Duration 48 months, (2010)
10. "Evaluation of Appearance-based Pedestrian Detection", Industry, Contracted Research with **LG Electronics**, D. Makris, S.A. Velastin, T. Ellis, Junaed Rahman, D Simonnet and F. Yin, Duration 4 months (2010), €100,000
11. "Tag and Track for Security and Forensics", funded by **British Aerospace/Ipsotek Ltd**, S.A. Velastin and J. Orwell, (€384,000 total, €120,000 for KU), Duration 12 months, (2009)
12. "Tracking individuals in crowds with a mixed network of static and PTZ (Pan-Tilt-Zoom) cameras", PhD Studentship funded jointly by **Faculty of CISM and Roke Manor Research (Siemens)**, S.A. Velastin, P. Remagnino and J. Orwell, Duration 36 months, (€78,000, 2009)
13. "A DVR for VCA (Video Contents Analysis)", Industry, Contracted Research with The **SYAC Group** (Italy), S.A. Velastin and T. Ellis, Value €14,000, Duration 18 months (2009)
14. FARM, "Framework for the Analysis of Rich Media", DBERR, Knowledge Transfer Partnership with **Pharos Ltd**, J. Orwell and S.A. Velastin, Value €120,000, Duration 24 months (2009)
15. "Experimental Study of Vehicle Passenger Interactions at Public Transport Stations", **Chilean Research Council** project No. 1080381, Rodrigo Fernández (PI, Universidad de Los Andes, Chile), S.A. Velastin (Kingston University, International Collaborator), Duration 36 months, started March 2008
16. "Classification of Vehicles and their Behaviour for Urban Traffic Scenes", Industry, PhD Sponsorship with **Transport for London**, S.A. Velastin and J. Orwell, €78,000, Duration 36 months (2007)
17. "Optimisation of Computer Vision Algorithms using Digital Signal Processors", Industry, PhD Sponsorship with **Ipsotek Ltd**, S.A. Velastin and W. Huang, Value €78,000, Duration 36 months (2007)
18. BARCO, "Robust wide-area multi-camera tracking of people and vehicles to improve CCTV visualisation", Industry, Contracted Research with **Barco View** (Belgium), S.A. Velastin and D. Makris, €78,000, Duration 36 months (2007)
19. CARETAKER: "Content Analysis and REtrieval Technologies to Apply Knowledge Extraction to massive Recordings", **EU-Framework 6** (IST Programme), S.A. Velastin and J. Orwell, Mar 2006-Sept 2008, €340,000. Partners included Thales Communications, INRIA, Multitel, Rome Public Transport.
20. "Visual Modelling of People Behaviours and Interactions for Professional Skills Training", **European Office of Aerospace Research & Development** (US Air Force Office of Scientific Research), P. Remagnino (PI), S.A. Velastin and S. Rush, \$45,000, January 2006 - December 2007

21. REASON: "Robust Methods for Monitoring and Understanding People in Public Spaces", **EPSRC**, Crime Prevention and Detection Technologies, November 2005-Jan 2009, €192,000 for KU (in collaboration with University College London (Centre for Transport Studies) and University of Reading (Computational Vision Research Group). Collaborators: Home Office, Thales Research UK, Crime Concern, Computer Recognition Systems Ltd.
22. "A UK-Japan Partnership on Ambient Intelligence", **EPSRC** Travel grant (Japan), €24,000, P. Remagnino (PI), S.A. Velastin and N. Monekosso, May 2005- April 2007
23. "Modelling Crowd Dynamics", Industry, PhD Sponsorship with BT, S.A. Velastin and P. Remagnino, €20,000, Duration 24 months (2005)
24. SERVE: "Surveillance, Evaluation, Research, Validation, and Exploitation", **EPSRC** Network, Crime Prevention and Detection Technologies Programme, S.A. Velastin (for Kingston University), T. Troscianko (Bristol) et al, £60,000 Duration 36 months (from Jan 2004).
25. "Documentation, enhancements and testing of a MIPSAs System", **Ipsotek Ltd.**, Nov 03 - Jan 04, €11,000.
26. "Getting the best use of CCTV in the Railways", **Rail Safety and Standards Board**, Jan-03 to Aug-03, in collaboration with Mott MacDonald Ltd. and Ipsotek Ltd., €116,000
27. COHERENT: "COMputational HEteRogEneously timed NEtworks", **EPSRC**, July 01 - Oct 04, Jointly with Newcastle University, A.C. Davies (PI) and S.A. Velastin, €297,000
28. "IPSATAC: An Implementation of a MIPSAs Surveillance System for Rome", **European Commission** (MIRACLES Project) and **ATAC** (Rome Transport Authority), 15 months from September 2002, €135,000.
29. ADVISOR: "Annotated Digital Video for Surveillance and Optimised Retrieval" (networked vision and archiving systems for improved surveillance in public transport systems), **EU Framework 5**, 39 months from January 2000. In collaboration with Thales Research (UK) Ltd., University of Reading, INRIA, Bull (France), €105,000
30. PRISMATICA: "Pro-active Integrated Systems for Security Management by Technological Institutional and Communication Assistance" (improvements to security in public transport systems), **EU Framework 5**, 36 months from April 2000. In collaboration with London Underground, Paris Metro, Lisbon Metro and other European operators. €620,000. S Velastin was Project's Technical Coordinator.
31. PERSEC: "Assessment of Image Processing techniques as a means of improving Personal Security in Public Transport", S.A. Velastin (PI), R. Allsop (PI) and N. Tyler (both at Centre for Transport Studies, University College London), **EPSRC**, April 1999 for 36 months, €109,000.
32. COMFORT (Asynchronous Communication Mechanisms for Real Time Systems), A.C. Davies (PI) and S.A. Velastin, in collaboration with Newcastle University. **EPSRC** April 1998-March 2001, £152,820.
33. CROMATICA: "Crowd Management with Telematic Imaging and Communications Assistance", **EC Framework 4**, Telematics Programme. Main partners: London Underground, Paris Metro, Milan Metro, Metropolitan Police, BAA, UCL, INRETS (France). Jan 96 (36 months), 1 MECU. S.A. Velastin: Main programme conception, management of main workpackage (vision systems).
34. DIAMOND: Data Interaction Architecture, Multiple Object Network Demonstrators, **British Aerospace**, S.A. Velastin (PI) and A.C. Davies, Dec. 1993, 12 months, £38,000. Collaboration continues to date.
35. "Incident Detection and Data Gathering For Crowds in Confined Areas Using Image Processing", S.A. Velastin (PI) and A.C. Davies, R Allsop (PI) [Transport Studies Group, UCL] and A Penn [Bartlett School of Architecture and Planning, UCL], **SERC** Sept. 1993, 27 months, £84,935 (Total: £209,000)
36. "Sensor Guided Automated Path Planning for Robot Manipulators", **King's College London** Research Strategy Fund, March 1993, £35,156
37. "Mechatronic Teaching Material Development and Mobile Robotics Research", **King's College London** Academic Development Fund, March 1993, £7,210
38. "Transputer-based Computer Architectures for Dual-robot Control". Equipment and travel grant from the **Royal Society**. Feb. 1992, £9,589
39. "Pilot Study on Automatic Data-capture and Analysis of Crowds in Confined Areas Using Image Processing", S.A. Velastin (PI) and A.C. Davies, R Allsop (PI) [Transport Studies Group, UCL] and A Penn [Bartlett School of Architecture and Planning, UCL], **SERC** July 1992, 12 months, £16,577 (Total: £30,000)
40. "Real-Time Sensor Integration for Industrial Robots using the Blackboard Model". Equipment grant by the **University of London** Central Research Fund. July 1991. £2,500

(directly involved in 8 successful EU project bids bringing in approx. €3M to my institutions)

## **OTHER**

1. Keynote speaker IEEE Fusion International Conference, Salamanca, Spain, July 2014.
2. Runner-up "Enterprise Champion", 2012, Kingston University London
3. Invited guest editor for special issues (IET, SPIE-JEI, ...)
4. Keynote speaker on International Visual Informatics Conference 2017 (IVIC'17), 2011 (IVIC'11) and 2009 (IVIC'09), Malaysia; International Symposium on Visual Computing (ISVC'11), September 2011, Las Vegas, USA; LACNEM 2010, Cali, Colombia; PANAM Transport Conference, Chile 2012; ITS-Chile 2012, LACNEM 2015 (Colombia).
5. Referee for the Swedish Knowledge Foundation
6. Past elected member and chair of the Executive Committee of the IET's Vision and Imaging Professional Network
7. Conference Chair of IET's International Conference on Visual Information Engineering, VIE-2007, London
8. Guest Editor for: IEE Procs on Vision, Imaging and Signal Processing, Pattern Recognition Letters, Machine Vision Applications, IET Computer Vision, IET Image Processing, SPIE's J. Electronic Imaging.
9. Conception, organiser and chair of the IEE's International Symposium on Intelligent Distributed Surveillance Systems (IDSS-04, IDSS-05) and the IET's International Symposium on Imaging for Crime Detection and Prevention (ICDP-2005, ICDP-2006, ICDP-2009, ICDP-2011, ICDP-2013, ICDP-2015 ICDP-2016, ICDP-2017).
10. Regular appearances in radio and television worldwide (BBC, Discovery, Sky, TF2, etc.) as an expert in pedestrian monitoring systems.
11. Pioneering work (PhD thesis 1981) on video-based monitoring of pedestrians, a field later called "Visual Surveillance" and commercially "Video Analytics"
12. Native language proficiency in Spanish and English.

## **MAIN CURRENT/PAST COLLABORATORS**

- INRIA (French National Institute for Research in Computer Science and Control)
- CEREMA and Paul Sabatier University (France)
- Kingston University London
- Queen Mary University London
- National University of Malaysia (UKM)
- University of Malaya (Malaysia)
- INRETS (French National Institute for Transport Research)
- University College London (Transport Studies)
- University of Reading (Computer Vision)
- University of Los Andes, Chile (Transport Studies, Machine Learning)
- University of Zaragoza, Spain (Computer Vision)
- Metropolitan Police (imaging for crime detection)
- Transport for London
- ATAC (Rome Transport)
- Roke Manor Research
- Thales France (Communications, Transport, Security)
- BARCO (Belgium)
- British Aerospace

## **MAIN PROFESSIONAL INTERESTS:**

Computer vision methods applied to improvements in safety and personal security in public and private environments. Human Action Recognition in the context of surveillance, assisted living and intelligent spaces. Interdisciplinary approaches (combining physical and social sciences and involving a range of stakeholders) to understand and tackle socially relevant applications such as personal security, assisted living, training and leisure.

## **PUBLICATIONS:**

### **Under preparation:**

1. Jorge Espinosa, Sergio A. Velastin and John William Branch. "Vehicle Detection using Alex Net and Faster R-CNN Deep Learning Models: a Comparative Study", preparing as invited paper to 5th International Visual Informatics Conference 2017, November 2017, Malaysia.
2. Jorge Espinosa, Sergio A. Velastin and John William Branch. "Detection of vulnerable road users (VRU) in urban traffic using video processing: A survey"
3. Jorge Espinosa, Sergio A. Velastin and John William Branch. "Motorbike Classification in Video Sequences using Deep Learning"
4. R. Fernandez, S.A. Velastin, M. Belloc, M.A. Jara. "Detection of People Boarding/Alighting from a Metropolitan Train using Computer Vision", to be submitted to the IEEE Trans. on Intelligent Transportation Systems.

### **Under review:**

1. Huy-Hieu Pham, Louahdi Khoudour, Alain Cruzil, Pablo Zegers and Sergio A. Velastin. "An improved deep ResNet architecture for human action recognition from skeletal data", submitted to Computer Vision and Image Understanding
2. F. Murtaza, Muhammad Haroon Yousaf and Sergio A Velastin. "Toward Temporal Action Segmentation in Uncut Videos Using Unsupervised Classification", submitted to IEEE Signal Processing Letters, accepted subject to minor revisions
3. Saima Nazir, Muhammad Haroon Yousaf, Sergio A. Velastin. "Evaluating Bag of Visual Features (BoVF) Approach using Spatio Temporal Features for Action Recognition", submitted to Pattern Recognition Letters, accepted subject to revisions
4. Huy-Hieu Pham, Louahdi Khoudour, Alain Cruzil, Pablo Zegers and Sergio A. Velastin. "Video-based Human Action Recognition using Deep Learning: A Review", submitted to Machine Vision Applications journal
5. Jorge Sepulveda, Sergio A. Velastin. "F1-score assessment of statistical background subtraction methods to generate a whole segmented silhouettes of the MuHAVi dataset", submitted to IET Image Processing.
6. Jorge Párraga, Sergio A Velastin, Max Chacón: Human Action Recognition in Close View Varying Illumination Environments (CVIEs): A Review, submitted to Journal on Multimodal User Interfaces (Springer)

### **Monographs and Edited Books**

1. Halimah Badioze Zaman, Peter Robinson, Alan F. Smeaton, Timothy K. Shih, Sergio Velastin, Azizah Jaafar, Nazlena Mohamad Ali (Eds), "Advances in Visual Informatics", 4th International Visual Informatics Conference, IVIC 2015, Bangi, Malaysia, November 17-19 2015, LNCS Vol. 9429, Springer
2. HB Zaman, P Robinson, P Olivier, TK Shih, S.A. Velastin, Editors "Advances in Visual Informatics", Proceedings Third International Visual Informatics Conference, IVIC 2013, Selangor, Malaysia, November 13-15, ISBN: 978-3-319-02957-3 (Print) 978-3-319-02958-0 (Online)
3. HB Zaman, P Robinson, M. Petrou, P Olivier, TK Shih, S.A. Velastin, I Nystrom, Editors "Visual Informatics: Sustaining Research and Innovations", LNCS, Springer. ISBN 978-3-642-25190-0. (2011)
4. S. Lian, S.A. Velastin, H. T. Sencar, N. Nikolaidis, Editors, "*Intelligent Multimedia Analysis for Security Applications*", Springer-Verlag, ISBN-13: 978-3642117541, DOI: <http://dx.doi.org/10.1007/978-3-642-11756-5>, (2010)
5. S.A. Velastin, P. Remagnino, Editors, "*Intelligent Distributed Surveillance Systems*" The Institution of Electrical Engineers (IEE), ISBN/ISSN 0-86341-504-0 (2005)

### **Journals**

1. Saima Nazir, Muhammad Haroon Yousaf, Jean-Christophe Nebel, Sergio A. Velastin. "A Bag of Expression Framework for Improved Human Action Recognition", Elsevier's Computers and Electrical Engineering, accepted (2017)

2. Zezhi Chen, Tim Ellis, Sergio A Velastin. "Vision Based Traffic Surveys in Urban Environments", Special section on Intelligent Transport Systems, Journal of Electronic Imaging (SPIE), 2016, doi:10.1117/1.JEI.25.5.051206
3. Fiza Murtaza, Muhammad Haroon Yousaf, Sergio A. Velastin "Multi-view Human Action Recognition using 2D Motion Templates based on MHIs and their HOG Description", IET Computer Vision, 2016
4. R. Herrera-Acuña, V. Argyriou, and S.A. Velastin. "A Kinect-based 3D hand-gesture interface for 3D databases." *Journal on Multimodal User Interfaces*, 2(9), pp. 121-139, DOI 10.1007/s12193-014-0173-0 (2015).
5. F. Yin, D. Makris, S.A. Velastin, T. Ellis, "Calibration and Object Correspondence in Camera Networks with Widely Separated Overlapping Views", IET Computer Vision journal, 9(3) pp. 354-367, DOI: 10.1049/iet-cvi.2013.0301, (2015)
6. N. Buch, S.A. Velastin, "Local Feature Saliency Classifier for Real- Time Intrusion Monitoring", SPIE's Opt. Eng., 53(7), 073108 (2014). DOI: 10.1117/1.OE.53.7.073108, (2014)
7. F. Yin, D. Makris, S.A. Velastin, T. Ellis, "Learning Multi-Planar Scene Models in Multi Camera Video Scenes", IET Computer Vision journal, 9(1), pp. 25-40, DOI: 10.1049/iet-cvi.2013.0261, (2015)
8. C. Salvadori, M. Petracca, J. Martinez del Rincon, S.A. Velastin, D. Makris "An optimisation of Gaussian mixture models for integer processing units", Journal of Real Time Image Processing, Springer-Verlag, pp. 1-7, DOI: 10.1007/s11554-014-0402-5 (2014)
9. M Lewandowski, D. Makris, S.A. Velastin, J.C. Nebel, "Structural Laplacian Eigenmaps for modelling sets of multivariate sequences" in 'IEEE Transactions on Systems, Man and Cybernetics, Part B', DOI: 10.1109/TCYB.2013.2277664, (2014).
10. Davies, Anthony C., and Sergio A. Velastin. "PROGRESS IN COMPUTATIONAL INTELLIGENCE TO SUPPORT CCTV SURVEILLANCE SYSTEMS." International Journal of Computing 4, no. 3 (2014): 76-84.
11. D Simonnet, S.A. Velastin, E Turkbeyler, J. Orwell, "Backgroundless Detection of Pedestrians in Cluttered Conditions based on Monocular Images: A Review" in 'IET Computer Vision', pp. 540-550 (11), IET (2012)
12. M. Valera Espina, S.A. Velastin, A Ellis and J.F. Ferryman - "Communication mechanisms and middleware for distributed video surveillance" IEEE Transactions on Circuits and Systems for Video Technology, IEEE, July, Vol 21/12, pp. 1795-1809, DOI: 10.1109/TCSVT.2011.2133850 (2011)
13. N. Buch, S.A. Velastin and J. Orwell - A Review of Computer Vision Techniques for the Analysis of Urban Traffic in IEEE Transactions on Intelligent Transportation Systems, 12. Vol 12/3 pp. 920-939, DOI 10.1109/TITS.2011.2119372 (2011)
14. L. Khoudour; El-M. El-Koursi, S.A. Velastin, N. Buch, S Lim-Thiebot, F Fontaine, "An approach for protecting a critical transport infrastructure", Proceedings of the Institution of Mechanical Engineers, Part F, Journal of Rail and Rapid Transit, doi: 10.1177/2041301710395076, pp. 383-393, Vol. 225/4, (2011)
15. L Khoudour, D. Aubert, S.A. Velastin, V Leung, J. Orwell, "Video-based detection of specific events in public transport networks" in 'Studia Informatica Universalis', 8(4), pp. 58-88, Hermann, (2010)
16. N. Buch, J. Orwell, S.A. Velastin, "Urban Road User Detection and Classification using 3D Wire Frame Models", IET Computer Vision Journal, Vol 4/2, pp. 105-116, DOI: 10.1049/iet-cvi.2008.0089, (2010)
17. V Leung, J. Orwell, S.A. Velastin, "Performance evaluation of tracking for public transport surveillance" in 'Annals of the British Machine Vision Association', (6), pp. 1-12, (2010)
18. F. Yin, D. Makris, S.A. Velastin, "Quantitative evaluation of different aspects of motion trackers under various challenges", BMVA Annals (5) pp. 1-11, (2010)
19. F. Yin, D. Makris, S.A. Velastin, "Time efficient ghost removal for motion detection in visual surveillance systems", IET Electronic Letters, 44/23, 1351-1353, DOI: 10.1049/el:20082118 (2008)
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