

Research Activity 2016



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0. Summary

RESEARCH PERSONNEL	
Postdoc Researchers	50
PhD students	55
COMPETITIVE PROJECTS	
New projects awarded in 2016	
• R+D Projects	6
• Other grants	2
In execution – awarded in previous years	
• R+D Projects	17
HUMAN RESOURCES GRANTS	
New grants awarded in 2016	
• Postdoc positions	3
• Predoc positions	4
• Mobility	1
In execution – awarded in previous years	
• Postdoc positions	5
• Predoc positions	8
• Mobility	1
PHD THESIS	4
MASTER THESIS	15
RESEARCH STAYS: OUTGOING	11
RESEARCH STAYS: INCOMING	15
INVITED TALKS BY CVC PERSONNEL	25
INVITED TALKS AT CVC	8
PUBLICATIONS	
• Books	5
• Book Chapters	1
• Journals with Impact Factor	50
• International Conferences	77
• Miscellanea	11
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1. Research Personnel

1.1 Composition

As of 31 December 2016, CVC personnel who perform research activities are composed by:

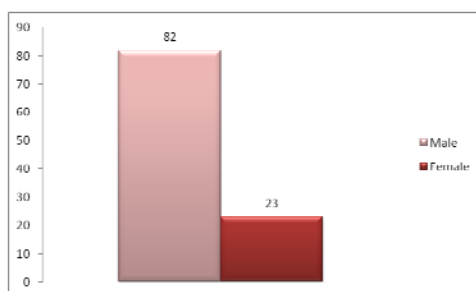
POST-DOC RESEARCHERS (50):

- **Permanent (22):** including 4 senior researchers contracted by CVC and also 18 university professors from UAB, UB and UOC.
- **Postdoc contracts (28):** including Ramon y Cajal and Tecniosprings, as well as those hired by the CVC and the UAB, UB and UOC universities.

PHD. STUDENTS (55): It includes any PhD student with a scholarship (CVC, UAB, FPI, DI, FI or FPU) or a contract as an assistant at the UAB, UB, or UOC.

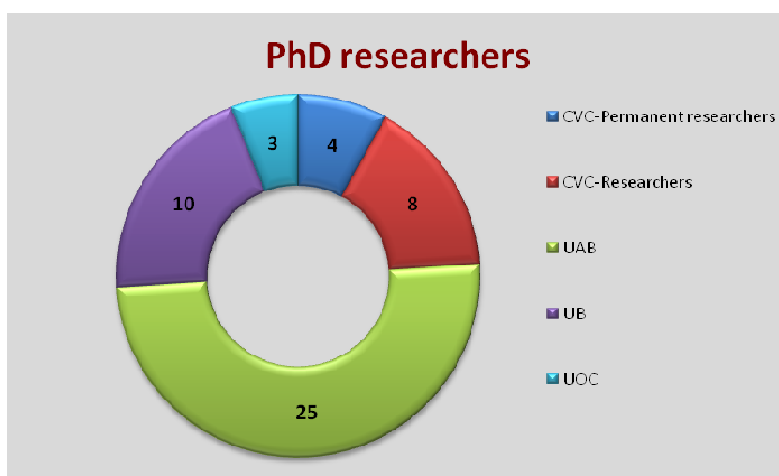
INTERNSHIPS (56): During 2016, CVC hosted for periods between 2 and 4 months (within the academic year), young undergraduate or master students to develop their projects or a training stage in some of the CVC research groups. In some cases, these stages have been the introduction to research work.

RESEARCHER PROFILE:



Postdoc researcher profile:

- University professor
- 40 years
- h-index 18



1.2 SGR Groups

All researchers in CVC are members of a recognized research group (SGR), distinction given by the Generalitat de Catalunya:

TITLE: *Learning and Machine Perception (LAMP)*

REFERENCE: 2014 SGR 221

FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca

DURATION: 2014-2017

TOTAL AWARDED: 15.000,00 €

RESEARCHER: **Dr. Joost van de Weijer**

TITLE: *Research Lab on Image Sequence Evaluation (ISE Lab)*

REFERENCE: 2014 SGR 159

FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca

DURATION: 2014-2017

TOTAL AWARDED: No-finançat

RESEARCHER: **Dr. Jordi González**

TITLE: *Grup d'Anàlisi i Reconeixement d'Imatges de Documents (DAG)*

REFERENCE: 2014 SGR 1436

FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca

DURATION: 2014-2017

TOTAL AWARDED: 35.000,00 €

RESEARCHER: Dr. Josep Lladós

TITLE: *Advanced Driver Assistance Systems (ADAS)*

REFERENCE: SGR 2014 1506

FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca

DURATION: 2014-2017

TOTAL AWARDED: 30.000,00 €

RESEARCHER: **Dr. Antonio López**

TITLE: *Interactive Augmentend Machine Vision (IAMV)*

REFERENCE: 2014 SGR 1470

FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca

DURATION: 2014-2017

TOTAL AWARDED: No-finançat

RESEARCHER: **Dr. Debora Gil**

TITLE: *Color in Context Group (CVC)*

REFERENCE: 2014 SGR 1659

FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca

DURATION: 2014-2017

TOTAL AWARDED: No-finançat

RESEARCHER: **Dr. Maria Vanrell**

TITLE: *Computer Vision at the Universitat de Barcelona*

REFERENCE: 2014 SGR 1219

FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca

DURATION: 2014-2017

TOTAL AWARDED: 22.500,00 €

RESEARCHER: **Dr. Petia Radeva**

TITLE: *Grup de Visió i Aprenentatge Computacional (VCL)*

REFERENCE: 2014 SGR 561

FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca

DURATION: 2014-2017

TOTAL AWARDED: No-finançat

RESEARCHER: **Dr. Oriol Pujol**

TITLE: *Scene Understanding and Artificial Intelligence Lab (SUNAI)*

REFERENCE: 2014 SGR 564

FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca

DURATION: 2014-2017

TOTAL AWARDED: No-finançat

RESEARCHER: **Dr. David Masip**

2. Competitive Projects

2.1 Awarded in 2016

2.1.1 R+D Projects

TITLE: *iVENDIS - Intelligent in-Vivo Endoscopic Diagnosis and Intervention Support Systems*

REFERENCE: DPI2015-65286-R

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 01/01/2016-31/12/2017

TOTAL AWARDED: 173.877,00 €

PRINCIPAL INVESTIGATORS: Dr. Debora Gil, Dr. Jorge Bernal

TITLE: *CONCORDIA - Contextualización de contenidos en el reconocimiento de imágenes de documentos de archivos*

REFERENCE: TIN2015-70924-C2-2-R

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 01/01/2016-31/12/2018

TOTAL AWARDED: 154.950,00 €

PRINCIPAL INVESTIGATORS: Dr. Josep Lladós, Dr. Alícia Fornés

TITLE: *PERIPHAS - Cuando una imagen vale más que 140 caracteres: anotación automática de imágenes a partir del contenido visual compartido en redes sociales*

REFERENCE: TIN2015-65464-R

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 01/01/2016-31/12/2019

TOTAL AWARDED: 144.466,00 €

PRINCIPAL INVESTIGATORS: Dr. Jordi González, Dr. Xavier Roca

TITLE: *Representación continua multi-modal y multi-idioma para la comprensión del lenguaje humano / M2CR / CHIST ERA II 2015*

REFERENCE: PCIN-2015-251

FUNDING ENTITY: European Commission

DURATION: 01/01/2016-31/12/2018

TOTAL AWARDED: 88.000,00 €

PRINCIPAL INVESTIGATORS: Dr. Jost van de Weijer

TITLE: *Deep Multi-Task Learning for object Recognition*

REFERENCE: TIN2016-79717-R

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 2016-2018

TOTAL AWARDED: 39.446,00 €

PRINCIPAL INVESTIGATORS: Dr. Joost van de Weijer, Dr. Bogdan Raducanu

TITLE: *SEE4C - SpatiotEmporal ForEcasting: Coopetition to meet Current Cross-modal Challenges*

REFERENCE: SEP-210256573

FUNDING ENTITY: UE

DURATION: 2016-2018

TOTAL AWARDED: 67.362,50 €

PRINCIPAL INVESTIGATORS: Dr. Sergio Escalera

Other grants:

TITLE: *Desenvolupament de sistemes de visió per a l'assistència a la conducció i control de vehicles autònoms i cooperatiu*

FUNDING ENTITY: Secretaria TIC

DURATION: 2016

TOTAL AWARDED: 100.000 €

PRINCIPAL INVESTIGATORS: Dr. Josep Lladós

TITLE: *Desenvolupament de sistemes de visió per a l'assistència a la conducció i control de vehicles autònoms i cooperatiu*

FUNDING ENTITY: OSIC – Departament de Cultura

DURATION: 2016

TOTAL AWARDED: 5.000 €

PRINCIPAL INVESTIGATORS: Dr. Josep Lladós

2.2. In execution in 2016

2.2.1 R+D projects.

TITLE: *Closing the loop: bio-inspired top-down feedback for computational vision systems*

REFERENCE: TIN2013-41751-P

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 2014-2016

TOTAL AWARDED: 77.001,38 €

PRINCIPAL INVESTIGATOR: Dr. Xavier Otazu / Dr. Joost van de Weijer

TITLE: *Beauty is in the AI of the beholder: computer vision meets neuro-visual aesthetics*

REFERENCE: TIN2013-49982-EXP

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 2014-2017

TOTAL AWARDED: 60.500,00 €

PRINCIPAL INVESTIGATOR: Dr. Alejandro Parraga

TITLE: *CONSOLIDER REDES EXCELENCIA (R-MIPRCV)*

REFERENCE: TIN2014-54728-REDC

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 2014-2016

TOTAL AWARDED: 37.000,00 €

CVC PRINCIPAL INVESTIGATOR: Dr. Angel Sappa

TITLE: *Plataforma “Better at home”.Solución integral de teleasistencia (indoor & outdoor) basada en monitorización mediante sensores, sistemas de autoaprendizaje y tecnología móvil*

REFERENCE: RTC-2014-2148-1

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 2014-2016

TOTAL AWARDED: 116.183,00 €

PRINCIPAL INVESTIGATOR: Dr. Sergio Escalera

TITLE: *NeuroChild Eyetracking: Rehabilitación cognitiva de Niños con Daño Cerebral Adquirido basada en Serious Games para dispositivos móviles y con control visual de atención*

REFERENCE: RTC-2014-2228-1

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 2014-2016

TOTAL AWARDED: 101.640,00 €

PRINCIPAL INVESTIGATOR: Dr. Sergio Escalera

TITLE: *Document analysis and knowledge modeling for cultural heritage actions in Pyrenees – (CTP-DGR)*

REFERENCE: 2014 CTP 00052

FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca

DURATION: 2015-2016

TOTAL AWARDED: 5.000,00 €

PRINCIPAL INVESTIGATOR: Dr. Oriol Ramos

TITLE: *Care respite: monitorització visual intel·ligent de persones dependents*

REFERENCE: RD14-1-0102

FUNDING ENTITY: ACCIÓ

DURATION: 2015-2016

TOTAL AWARDED: 5.000,00 €

PRINCIPAL INVESTIGATOR: Dr. Sergio Escalera

TITLE: *5CofM—Five Centuries of Marriages.*

REFERENCE: Project Number 269796

FUNDING ENTITY: UE

DURATION: 2011-2016

TOTAL AWARDED: 396.800,00 €

CVC PRINCIPAL INVESTIGATOR: Dr. Josep Lladós (Principal investigator: Dr. Anna Cabré)

TITLE: *The European Network on Integrating Vision and Language (iV&L Net): Combining Computer Vision and Language Processing For Advanced Search, Retrieval, Annotation and Description of Visual Dataction*

REFERENCE: IC 1307

FUNDING ENTITY: COST

DURATION: 2014-2018

RESEARCHERS: Dr. Jordi González & Dr. Sergio Escalera

TITLE: *EINES: Eines i procediments per a la informatització massiva de les fonts històriques de població*

REFERENCE:

FUNDING ENTITY: RECERCAIXA

DURATION: 2014-2016

TOTAL AWARDED: 78.391,06 €

PRINCIPAL INVESTIGATOR: Dr. Josep Lladós

TITLE: *RAW - Leyendo en entornos no controlados: Explotando el contexto mútuo entre texto, escena y usuario para la lectura y la comprensión de la escena*

REFERENCE: TIN2014-52072-P

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 2015-2017

TOTAL AWARDED: 109.021 €

PRINCIPAL INVESTIGATOR: Dr. Dimosthenis Karatzas

TITLE: *ACDC - Conducción automática y corporativa en ciudad*
REFERENCE: TRA2014-57088-C2-1-R
FUNDING ENTITY: Ministerio de Economía y Competitividad
DURATION: 2015-2017
TOTAL AWARDED: 62.920 €
PRINCIPAL INVESTIGATOR: Dr. A. López/ D. Vázquez

TITLE: *Fire DMMI - Detección y Monitoreo de Incendios usando Imágenes Multiespectrales*
REFERENCE: TIN2014-56919-C3-R
FUNDING ENTITY: Ministerio de Economía y Competitividad
DURATION: 2015-2017
TOTAL AWARDED: 82.643 €
PRINCIPAL INVESTIGATOR: Dr. A. Sappa/ F. Lumbreras

TITLE: *MILE-TRANS, Estudio de las propiedades intrínsecas que permitan minimizar efectos de iluminación en sistemas inteligentes de transporte basados en visión*
REFERENCE: TIN2014-61068-R
FUNDING ENTITY: Ministerio de Economía y Competitividad
DURATION: 2015-2017
TOTAL AWARDED: 114.345 €
PRINCIPAL INVESTIGATOR: Dr. M. Vanrell / R. Benavente

TITLE: *NeViComp - Neurociencia Visual y Ciencias de la Computación*
REFERENCE: TIN2015-71130-REDT
FUNDING ENTITY: Ministerio de Economía y Competitividad
DURATION: 2015-2017
TOTAL AWARDED: 30.000 €
PRINCIPAL INVESTIGATOR: Dr. X. Otazu

TITLE: *RETEVI - Red Temática en Vehículos Inteligentes*
REFERENCE: TRA2015-69002-REDT
FUNDING ENTITY: Ministerio de Economía y Competitividad
DURATION: 2015-2017
TOTAL AWARDED: 30.000 €
PRINCIPAL INVESTIGATOR: Dr. A. López

TITLE: *De-identification for privacy protection in multimedia content*
REFERENCE: IC-1206
FUNDING ENTITY: European Commission
DURATION: 2015-2017
TOTAL AWARDED:
PRINCIPAL INVESTIGATOR: Dr. Jordi González

3. Human Resources Grants

3.1 Awarded in 2016.

Post-doc grants:

TITLE: *JUAN DE LA CIERVA 2014 (formación) - D.Vazquez*

REFERENCE: FJCI-2014-19845

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 2015-2016

HOLDER: Dr. David Vázquez

TITLE: *DECARTS - DECision support system for ARterial Stenting*

REFERENCE: TECSPR15-1-0027

FUNDING ENTITY: ACCIÓ

DURATION: 01/03/2016-28/02/2018

HOLDER: Dr. Karim Lekadir

TITLE: *Deep Learning for Autonomous Driving*

REFERENCE: TECSPR15-1-0025

FUNDING ENTITY: ACCIÓ

DURATION: 2016-2018

HOLDER: Dr. David Vázquez

Pre-doc grants:

TITLE: *DI - Doctorats Industrials Wide Eyes*

REFERENCE: 2016 DI 039

FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca

DURATION: 2017-2019

HOLDER: Vacit Oguz Yacizi

ADVISOR: Dr. Joost van de Weijer (CVC), Dr. Arnau Ramisa (Wide Eyes)

TITLE: *Beca FPI 2015- D.Bazazian*

REFERENCE: BES-2015-073105

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 2016-2017

HOLDER: Dena Bazazian

ADVISOR: Dr. Dimosthenis Karatzas, Dr. Andrew D. Bagdanov (Univ. Firenze)

TITLE: *Beca FPI 2015- H.Ahmed Sial*

REFERENCE: BES-2015-073722

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 2016-2020

HOLDER: Hassan Ahmed Sial

ADVISOR: Dr. Maria Vanrell, Dr. Robert Benavente

TITLE: *FPU - Pau Riba*
REFERENCE: FPU15/06264
FUNDING ENTITY: Ministerio de Educación, Cultura y Deporte
DURATION: 2016-2020
HOLDER: Pau Riba
ADVISOR: Dr. Josep Lladós, Dr. Alícia Fornés

Mobility grants:

TITLE: *Estancia breve – A. Gurguí*
REFERENCE: EEBB-I-2016-11525
FUNDING ENTITY: Ministerio de Ciencia y Competitividad
DURATION: 01/05/16-31/07/16
HOSTING INSTITUTION: University of Oxford
HOLDER: Antoni Gurguí

3.2 In execution in 2016.

Post-doc grants:

TITLE: *AVAL-DOC: Advances in Automatic Valorisation of Massive Amounts of Administrative Document Contents*
REFERENCE: TECSPR13-1-0017
FUNDING ENTITY: ACCIÓ
DURATION: 2014-2016
HOLDER: Marçal Rossinyol

TITLE: *OSP: The Open Solution Platform*
REFERENCE: TECSPR14-1-0005
FUNDING ENTITY: ACCIÓ
DURATION: 2015-2017
HOLDER: Dr. Ariel Amato

TITLE: *Beatriu de Pinós 2013*
REFERENCE: 2013 BP_B 00263
FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca
DURATION: 2014-2016
HOLDER: Dr. Maria Dimiccoli

TITLE: *RYC 2011 - C.Gatta*
REFERENCE: RYC2011-08174
FUNDING ENTITY: Ministerio de Economía y Competitividad
DURATION: 2014-2016
HOLDER: Dr. Maria Dimiccoli

TITLE: *RYC 2012 - A.Bagdanov*
REFERENCE: RYC2012-11776
FUNDING ENTITY: Ministerio de Economía y Competitividad
DURATION: 2014-2016
HOLDER: Dr. Andy Bagdanov

Pre-doc grants:

TITLE: *Beca FI 2013 - Ll.Gómez*
REFERENCE: 2015 FI_B2 00101
FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca
DURATION: 2014-2017
HOLDER: Lluís Gómez
ADVISOR: Dr. Dimosthenis Karatzas

TITLE: *Beca FI*
REFERENCE: 2014 FI_B1 00151
FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca
DURATION: 2014-2017
HOLDER: Meysam Madadi
ADVISOR: Dr. Jordi González / Dr. Sergio Escalera

TITLE: *Beca FI*
REFERENCE: 2015 FI_B1 00065
FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca
DURATION: 2014-2017
HOLDER: Ricard Balagué
ADVISOR: Dr. Robert Benavente / Dr. Josep Lladós

TITLE: *Doctorat Industrial SCYTL-UAB-CVC*
REFERENCE: 2013 DI 067
FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca
DURATION: 2014-2017
HOLDER: Juan Ignacio Toledo
ADVISOR: Dr. Josep Lladós / Dr. Alicia Fornés

TITLE: *Doctorat Industrial CATUAV-UAB-CVC*
REFERENCE: 2014 DI 024
FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca
DURATION: 2014-2017
HOLDER: Jordi Salvador
ADVISOR: Dr. Felipe Lumbreras / Dr. Angel Sappa

TITLE: *Doctorat Industrial ICAR-UAB-CVC*
REFERENCE: 2014 DI 024
FUNDING ENTITY: AGAUR – Agència de Gestió d'Ajuts Universitaris i de Recerca
DURATION: 2014-2017
HOLDER: Albert Berenguel
ADVISOR: Dr. Josep Lladós

TITLE: *Doctorat Industrial XEROX*

FUNDING ENTITY: XEROX

DURATION: 2014-2018

HOLDER: César de Souza

ADVISOR: Dr. Antonio López

TITLE: *Beca FPI 2013*

REFERENCE: BES-2013-063756

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 2014-2017

HOLDER: Antoni Gurguí

ADVISOR: Dr. Debora Gil

Support Technician grant:

TITLE: *Técnicos de Apoyo 2012*

REFERENCE: PTA2012-8115-E

FUNDING ENTITY: Ministerio de Economía y Competitividad

DURATION: 2013-2016

HOLDER: Raul Alcaide

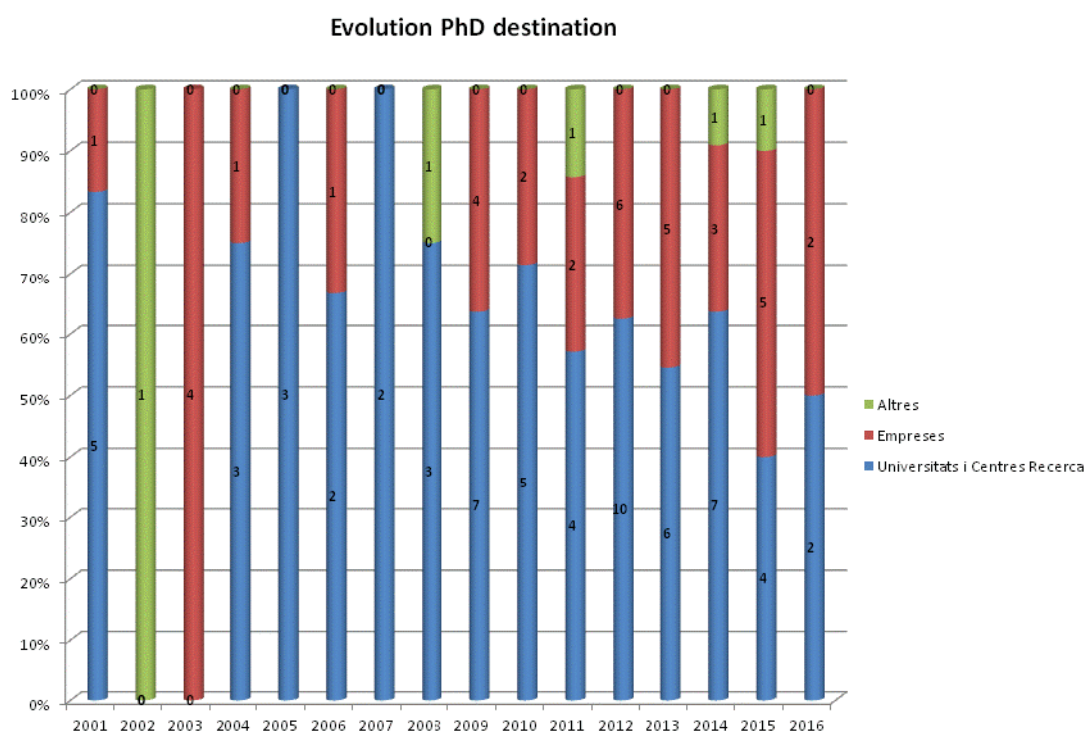
ADVISORS: Dr. David Rotger / Meritxell Bassolas

4. PhD Thesis

- **Lluís Gómez Bigordà:** *"Exploiting Similarity Hierarchies for Multi-script scene text understanding"*, April 8, 2016. Supervisor: **Dr. Dimosthenis Karatzas** (CVC-UAB)
- **Víctor Ponce:** *"Evolutionary Bags of Space-Time Features for Human Analysis"*, June 2, 2016. Supervisors: **Dr. Sergio Escalera Guerrero** (CVC-UAB), **Dr. Xavier Baro Sole** (CVC-UOC), and **Dr. Hugo Jair Escalante** (Instituto Nacional de Astrofísica, Óptica y Electrónica)
- **Germán Ros:** *"Visual Scene Understanding for Autonomous Vehicles: Understanding Where and What"*, October 24, 2016. Supervisors: **Dr. Antonio M. López** (CVC-UAB), **Dr. Angel Sappa** (CVC), and **Dr. Julio Guerrero** (Universidad de Murcia)
- **Francisco Cruz:** *"Probabilistic Graphical Models for Document Analysis"*, November 15. Supervisor: **Dr. Oriol Ramos** (CVC-UAB)

Distribution of new PhD in 2016:

- **Universities and Research Centres (2):** Université de la Rochelle and CVC.
- **Companies (2):** Eurecat and Toyota Research Institute (USA)



5. Master thesis and Master projects

- **Adrià Ciurana Lanau:** *"Exploring deep learning alternatives to illuminant estimation"*, CVC September 16, 2016
Supervisor: **Dr. Ramon Baldrich (CVC-UAB)**
- **Akhil Gurram:** *"Exploiting Deconvolutional Networks for Dense Depth Estimation from a Single Image"*, September 16, 2016
Supervisor: **Dr. Antonio M. López Peña (CVC-UAB)**
- **Alfonso Imbernon Garcia:** *"Multispectral photometric stereo"*, September 2016
Supervisor: **Dr. Felipe Lumbreras (CVC-UAB)**
- **Alvaro Hernández Martín:** *"Weakly-Supervised Clothing Detection and Classification with Deep Convolutional Neural Networks"*, September 16, 2016
Supervisor: **Dr. Jordi González and Dr. Xavier Roca (CVC-UAB)**
- **Andrea Velasco Gomes:** *"Non-linear Statistical Analysis of Shape Models with Lie Groups"*, September 16, 2016
Supervisor: **Dr. Debora Gil (CVC-UAB) and Dr. Miguel A. González Ballester (UPF)**
- **Arcadi Llanza Carmona:** *"Multi-task Siamese Networks for Fashion Image Retrieval"*, September 16, 2016
Supervisor: **Dr. Joost van de Weijer (CVC)**
- **Filip Mitrev:** *"Semantic segmentation of aerial hyperspectral images based on deep learning methods"*, September 16, 2016
Supervisor: **Dr. Daniel Ponsa (CVC-UAB)**
- **Guim Perarnau Guirao:** *"Bidirectional Conditional Generative Adversarial Networks"*, September 16, 2016
Supervisors: **Dr. Bogdan Raducanu (CVC) and Dr. José Manuel Álvarez (NICTA)**
- **Jordi Frias Navarro:** *"Inferring Object Orientation in Driving Scenes"*, September 16, 2016
Supervisor: **Dr. Joan Serrat (CVC-UAB)**
- **Olaia Artieda Aguirre:** *"Siamese and Triplet network comparison: application on similar MEME detection"*, September 16, 2016
Supervisor: **Dr. Joost van de Weijer (CVC)**
- **Pau Riba Fierrez:** *"An error-tolerant graph matching model for hierarchical graphs with topological node embedding in large scale visual retrieval"*, September 16, 2016
Supervisor: **Dr. Josep Lladós and Dr. Alícia Fornés (CVC-UAB)**
- **Raúl Álamo Gómez Bruballa:** *"Efficient discovery of text in the wild using Fully Convolutional Networks"*, September 16, 2016
Supervisor: **Dr. Dimosthenis Karatzas (CVC-UAB)**

- **Sergi Canyameres Masip:** *“Learning image representations for retrieval of unseen classes using Siamese Neural Networks”*, September 16, 2016
Supervisor: **Dr. Joost van de Weijer (CVC)**
- **Vacit Oguz Yazici:** *“Using Deep Learning For Personality Estimation from Shared Images in Social Networks”*, September 16, 2016
Supervisor: **Dr. Jordi González and Dr. Xavier Roca (CVC-UAB)**
- **Xialei Liu:** *“Learning from rankings for no-reference image quality assessment by Siamese Network”*, September 16, 2016
Supervisor: **Dr. Joost van de Weijer (CVC)**

6. Research stays: outgoing

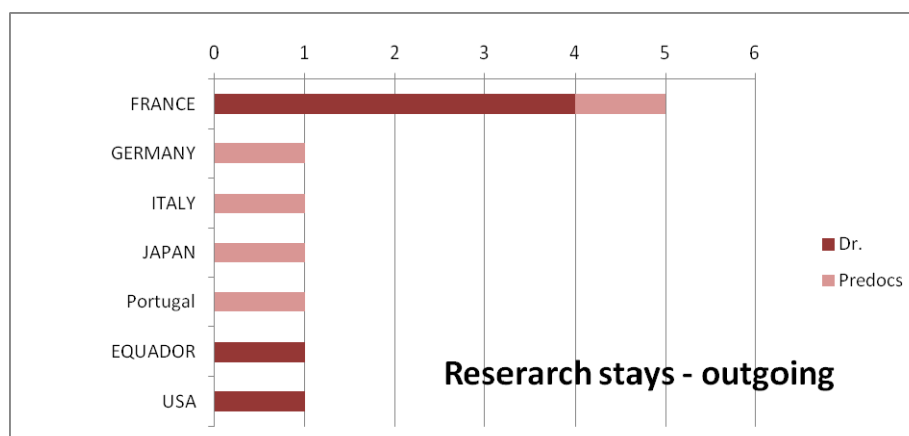
During 2016, CVC's research staff had carried out 11 research stays, all of them in labs outside Spain. Of these, 8 were in centers in Europe, 2 in America and 1 in Asia.

Postdoctoral (6):

- **Dr. Angel Sappa**, Facultad de Ingeniería en Electricidad y Computación, Escuela Superior Politécnica del Litoral (ESPOL), Quayaquil (Ecuador), January to December 2016 (sabbatical leave)
- **Dr. Jorge Bernal**, ETIS - UMR CNRS 8051ENSEA, Cergy (France), January to February 2016. Collaboration with Dr. Aymeric Histace.
- **Dr. Oriol Ramos**, RIT - Institut de Recherche en Informatique de Toulouse (France), March 2016. Collaboration with Dr. Florence Sèdes.
- **Dr. Mariella Dimiccoli**, University of Texas, Austin (USA), June-July 2016. Collaboration with Dr. Edison Thomaz.
- **Dr. Jorge Bernal**, ETIS - UMR CNRS 8051ENSEA, Cergy (France), November 2016 to January 2017. Collaboration with Dr. Aymeric Histace.
- **Dr. Alícia Fornés**, Uppsala University, Uppsala (Sweden), September 2016. Collaboration with Dr. Anders Brun.

Predoctoral (5):

- **Germán Ros**, Toshiba Tokio (Japan), from February 1 to May 1, 2016.
- **Francesco Brughi**, IRIT - Institut de Recherche en Informatique de Toulouse (France), from March 1 to June 30, 2016. Supervisor: Dr. Florence Sèdes.
- **Suman Gosh**, Università di Firenze (Italy), from April 1 to June 30, 2016. Supervisor: Dr. Andrew D. Bagdanov.
- **Ivet Rafegas**, Dept. Informática, Univ. da Beira Interior, Covilhã (Portugal). September-December, 2016. Supervisor: Dr. Luis Alexandre
- **Arash Akbarinia**, Abteilung Allgemeine Psychologie, Justus-Leibig Universität, Giessen (Germany). November 28, 2016 to February 28, 2017. Supervisor: Prof. Karl Gegenfurtner.



7. Research stays: incoming

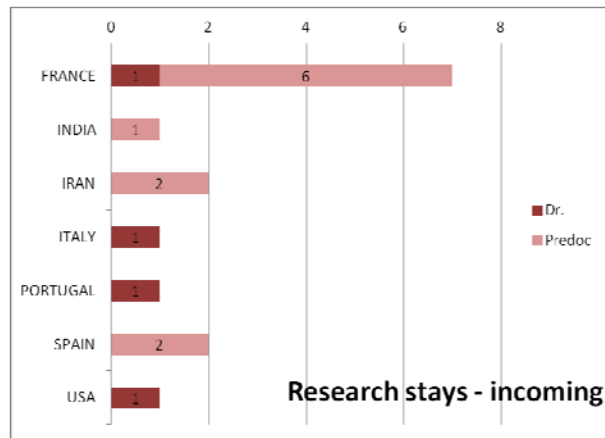
During 2016, we received 15 researchers coming from other centers and institutions. Of these, just 2 of them came from other universities in Spain. The rest were from other centres in Europe (9), America (1), and Asia (3).

Postdoctoral (4):

- **Andrea Baraldi**, Università di Napoli Federico II, from March to July 2016. Collaboration with **LAMP group**.
- **Luís Alexandre**, Dept. Informática, Universidade da Beira Interior, Covilhã, Portugal. May 23 to 27, 2016. Collaboration with **CIC group**.
- **Jerod Weinman**, Department of Computer Science, Grinnell College IA (USA), from July 2016 to June 2017. Collaboration with **DAG group**.
- **Manel Mezghani**, IRT - Institut de Recherche en Informatique de Toulouse (France), November, 2016. Collaboration with **DAG group**.

Predoctoral (11):

- **Azadez Sadat Mozafari**, Sharif University of Technology (Iran), September 14, 2015 to March 13, 2016. Stay with **ADAS group**, supervisor: **Dr. Antonio Lopez**
- **Ludovic Godard-Cadillac**, École Nationale des Ponts et Chaussées - EPCN, (France), from January to June 2016. Supervisors: Dr. Felipe Lumbreras (**ADAS group**) and Dr. Josep Lladós (**DAG group**)
- **Pierre Moras**, Université de Toulouse (France), from April to July 2016. Supervisor: Dr. Antonio M. López (**ADAS group**)
- **Pierre Saëlins**, Université de Toulouse (France), from April to July 2016. Supervisor: Dr. Antonio M. López (**ADAS group**)
- **Alexander Billay**, Université de Tours (France), from April-May 2016. Supervisors: Dr. Oriol Ramos (**DAG group**)
- **Florian Lambert**, Université de Tours (France), April 2016. Supervisor: Dr. Oriol Ramos (**DAG group**)
- **Thomas Gache**, Université de Tours (France), from April-May 2016. Supervisors: Dr. Debora Gil and Dr. Carles Sánchez (**IAM group**)
- **Yash Patel**, CVIT – Center for Visual Information Technology, IIT Hyderabad (India), from May to June 2016. Supervisor: Dr. Dimos Karatzas (**DAG group**)
- **Emilio Granell**, Universidad Politécnica de Valencia, June 2016. Supervisor: Dr. Alícia Fornés (**DAG group**)
- **Maryam Asadi**, University of Tehran (Iran), from October 2016 to April 2017. Supervisor: Dr. Sergio Escalera (**HuPBA group**)
- **Jorge Calvo Zaragoza**, Universidad de Alicante, November 2016. Supervisor: Dr. Alícia Fornés (**DAG group**)



8. Invited Talks by CVC personnel

Title: *GPU optimization for Autonomous Driving*, in MyCore – TELSEA Workshop

Lecturer: David Vázquez

Place: Barcelona

Date: February 2, 2016

Title: *Learning to See in Virtual Worlds*, Huawei Research Centre Europe

Lecturer: Antonio M. López

Place: Munich (Germany) Headquarters

Date: February 2nd, 2016

Title: *Tools and procedures for massive digitalization of demographic sources from the past*. EHPS-net Workshop. Centre for Demography and Ageing Research,

Lecturer: Josep Lladós, J.M. Pujades

Place: Umeå University (Sweden)

Date: February 16th, 2016

Title: *Social Networks of the Past: Information Extraction from Historical Demographic Documents*. PhilTag Workshop

Lecturer: Josep Lladós

Place: Wurzburg (Germany)

Date: February 25th, 2016

Title: *Training my car to See: Using Virtual Worlds*, at the GPU Technology Conference

Lecturer: Antonio M. López

Place: San Jose (CA, USA)

Date: April 5, 2016

Title: *Visual Perception from Virtual Worlds: from V-AYLA to SYNTHIA*

Lecturer: Antonio M. López

Place: Essex University, UK

Date: April 12, 2016

Title: *Learning to See in Virtual Worlds*, in Computer Vision for Automotive Applications – the road ahead Meeting, One-day BMVA Technical Meetings organized by BMVA (British Machine Vision Association and Society for Pattern Recognition)

Lecturer: Antonio M. López

Place: London, UK

Date: April 13, 2016

Title: *El color en Visió per Computador*, in Sesión Interhospitalaria de Oftalmología, Hospital Can Ruti

Lecturer: Maria Vanrell

Place: Barcelona

Date: May 17, 2016

Title: *Towards Efficient and Usable Keyword Spotting in Large Scale Environments*, Seminaires du Laboratoire Informatique, Image et Interaction L3i

Lecturer: Marçal Rusiñol

Place: Université de la Rochelle

Date: May 19, 2016

Title: *Un lab de experiencias culturales en la Biblio*, in Pint of Science

Lecturer: Fernando Vilariño

Place: Mikkeller Bar (Barcelona)

Date: May 23, 2016

Title: *Computer Vision Techniques*, UAV Remote Sensing Applications (6th Edition)

Lecturer: Daniel Ponsa

Place: BCN Drone Center

Date: June 14, 2016

Title: *Training my Car to See in a Virtual World*, NVIDIA GTC

Lecturer: Antonio M. López

Place: San Jose, CA, USA

Date: April 5th, 2016

Title: *Food Analysis by Deep Learning*, at Eighth Conference of the Euro-American Consortium for Promoting the Application of Mathematics in Technical and Natural Sciences

Lecturer: Petia Radeva

Place: Albena (Bulgaria)

Date: June 22-27, 2016

Title: *Contextual Word Spotting in Historical Manuscripts*, Fakultät für Informatik

Lecturer: Alicia Fornés

Place: Technische Universität Dortmund

Date: June 30, 2016

Title: *Graph-based visual recognition and indexing based on random walk embeddings*

Lecturer: Josep Lladós

Place: TU Dortmund (Germany)

Date: July 1st, 2016

Title: *Brightness induction, colour induction, visual saliency and visual discomfort: Different sides of the same 'cortical' coin?*, at the Departamento de Cognición, Desarrollo y Psicología de la Educación, Universitat de Barcelona

Lecturer: Xavier Otazu

Place: Barcelona (Spain)

Date: July 12, 2016.

Title: *Historical Document Image Analysis and Recognition. "Culture & Technology"* - The European Summer University in Digital Humanities (ESU)

Lecturer: Alicia Fornés.

Place: Leipzig (Germany)

Date: July 2016.

Title: *VISION Understanding and Machine*, Intelligence Summer School (VISUM)

Lecturer: Alicia Fornés

Place: Oporto (Portugal)

Date: July 2016

Title: *Aesthetics without semantics: a new dataset of natural scenes devoid of semantic content*, at The Visual Science of Art Conference (VSAC)

Lecturer: Marta Expósito

Place: Barcelona (Spain)

Date: August 27, 2016

Title: *Lifelogging, egocentric vision and health: how a small wearable camera can help me improve my health state*, Accenture Analytics

Lecturer: Petia Radeva

Place: Sant Cugat

Date: September 20, 2016

Title: *Can Deep Learning and Egocentric Vision for Visual Lifelogging help us eat better?*, at 19th International Conference of the Catalan Association for Artificial Intelligence 12th International Symposium on Medical Information Processing and Analysis (CCIA'2016)

Lecturer: Petia Radeva

Place: Barcelona

Date: October 20, 2016

Title: *Social Networks of the Past: Information Extraction from Historical Demographic Documents* PhilTag Workshop

Lecturer: Josep Lladós

Place: Fribourg (Switzerland)

Date: November 14th, 2016.

Title: *Vision-based Autonomous Driving with Synthia*, AVL Ibérica

Lecturer: Antonio M. López

Place: Mataró (Barcelona)

Date: November 14, 2016

Title: *What is common between Deep Learning, Food Analysis and Egocentric Vision?*, at 9th International Conference on Machine Vision (ICMV 2016)

Lecturer: Petia Radeva

Place: Nice (France).

Date: November 18-20, 2016

Title: *How Egocentric Vision and Visual Lifelogging complement medical images in health applications?*, at 12th International Symposium on Medical Information Processing and Analysis (SIPAM'2016)

Lecturer: Petia Radeva

Place: Tandil (Argentina)

Date: December 5-7, 2016

9. Invited Talks at CVC

Semi-Supervised Learning in Large Image Collections

Speaker: Prof. Gernot A. Fink,

Affiliation: Department of Computer Science, Technische Universität Dortmund (Germany)

Date: January 22, 2016

Dynamic Probabilistic Models for Person Tracking and Activity Recognition

Speaker: Dr. Sileye Ba

Affiliation: INRIA Rhône-Alpes (France)

Date: February 2, 2016

From Medical Image Analysis to Computer-based Personalized Medicine

Speaker: Dr. Karim Lekadir

Affiliation: Computer Vision Center

Date: February 26, 2016

Low-Level Vision Color Constancy and Prior Color Naming for Application-independent Automated Linear-Time Detection and Quality Assessment of Superpixels in Multi-source Color Images

Speaker: Andrea Baraldi

Affiliation: Univesitat Federico III

Date: May 6, 2016

Computational mechanisms of rapid visual recognition

Speaker: Thomas Serre

Affiliation: Brown University

Date: September 1, 2016

On large-scale indexing: Polisemous-codes

Speaker: Dr. Florent Perronnin

Affiliation: Xerox/Facebook

Date: September 14, 2016

Mapping the World with Street View

Speaker: Dr. Ray Smith

Affiliation: Google Inc

Date: October 7, 2016

The World-as-Support: embodied exploration, understanding and meaning-making of the augmented word

Speaker: Dr. Laura Malinverni and Dr. Narcís Parés

Affiliation: ICT Department of Universitat Pompeu Fabra (Barcelona, Spain)

Date: December 20, 2016

10. Publications

10.1 Books (5)

1. Simone Balocco, Maria Zuluaga, Guillaume Zahnd, Su-Lin Lee, and Stefanie Demirci. *"Computing and Visualization for Intravascular Imaging and Computer Assisted Stenting"*. Elsevier, 2016.
2. Francisco Cruz. *"Probabilistic Graphical Models for Document Analysis."* Ph.D. thesis, Ediciones Gráficas Rey, 2016.
3. German Ros. *"Visual Scene Understanding for Autonomous Vehicles: Understanding Where and What"*. Edited by Angel Sappa, Julio Guerrero, and Antonio Lopez. Ph.D. thesis, Ediciones Gráficas Rey, 2016.
4. Lluís Gómez. *"Exploiting Similarity Hierarchies for Multi-script scene text understanding"*. Ph.D. thesis, Ediciones Gráficas Rey, 2016.
5. Victor Ponce. *"Evolutionary Bags of Space-Time Features for Human Analysis."* Edited by Sergio Escalera, Xavier Baro, and Hugo Jair Escalante. Ph.D. thesis, Ediciones Gráficas Rey, 2016.

10.2 Book Chapter (1)

1. J.M. Pujadas-Mora, Alicia Fornes, Josep Lladós, and Anna Cabre. "Bridging the gap between historical demography and computing: tools for computer-assisted transcription and the analysis of demographic sources." In *The future of historical demography. Upside down and inside out*, edited by K.Matthijs, S.Hin, H.Matsuo and J.Kok, 127–131. Acco Publishers, 2016.

10.3 Journals with Impact Factor (50)

1. Adriana Romero, Carlo Gatta, and Gustavo Camps-Valls. "Unsupervised Deep Feature Extraction for Remote Sensing Image Classification." *IEEE Transaction on Geoscience and Remote Sensing* 54, no. 3: 1349–1362 (2016).
2. Alejandro Gonzalez Alzate, David Vazquez, Antonio Lopez, and Jaume Amores. "On-Board Object Detection: Multicue, Multimodal, and Multiview Random Forest of Local Experts." *IEEE Transactions on cybernetics* (2016).
3. Alejandro Gonzalez Alzate, Zhijie Fang, Yainuvis Socarras, Joan Serrat, David Vazquez, Jialong Xu, and Antonio Lopez. "Pedestrian Detection at Day/Night Time with Visible and FIR Cameras: A Comparison." *Sensors* 16, no. 6: 820(2016).
4. Angel Sappa, Cristhian A. Aguilera-Carrasco, Juan A. Carvajal Ayala, Miguel Oliveira, Dennis Romero, Boris X. Vintimilla, and Ricardo Toledo. "Monocular visual odometry: A cross-spectral image fusion based approach." *Robotics and Autonomous Systems* 85: 26–36(2016).
5. Angel Sappa, P. Carvajal, Cristhian A. Aguilera-Carrasco, Miguel Oliveira, Dennis Romero, and Boris X. Vintimilla. "Wavelet based visible and infrared image fusion: a comparative study." *Sensors* 16, no. 6: 1–15 (2016).

6. Antonio Hernandez, Sergio Escalera, and Stan Sclaroff. "Poselet-based Contextual Rescoring for Human Pose Estimation via Pictorial Structures." *International Journal of Computer Vision* (2016).
7. C. Alejandro Parraga, and Arash Akbarinia. "NICE: A Computational Solution to Close the Gap from Colour Perception to Colour Categorization." *PLoS One* 11, no. 3: e0149538 (2016).
8. C. Butakoff, Simone Balocco, F.M. Sukno, C. Hoogendoorn, C. Tobon-Gomez, G. Avegliano, and A.F. Frangi. "Left-ventricular Epi- and Endocardium Extraction from 3D Ultrasound Images Using an Automatically Constructed 3D ASM." *Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization* 4, no. 5: 265–280 (2016).
9. Ciprian Corneau, Marc Oliu, Jeffrey F. Cohn, and Sergio Escalera. "Survey on RGB, 3D, Thermal, and Multimodal Approaches for Facial Expression Recognition: History." *IEEE Transactions on Pattern Analysis and Machine Intelligence* 28, no. 8: 1548–1568 (2016).
10. Cristina Palmero, Albert Clapes, Chris Bahnsen, Andreas Møgelmoose, Thomas B. Moeslund, and Sergio Escalera. "Multi-modal RGB-Depth-Thermal Human Body Segmentation." *International Journal of Computer Vision* 118, no. 2: 217–239 (2016).
11. Cristina Palmero, Jordi Esquirol, Vanessa Bayo, Miquel Angel Cos, Pouya Ahmadmonfared, Joan Salabert, David Sanchez, and Sergio Escalera. "Automatic Sleep System Recommendation by Multi-modal RGB-Depth-Pressure Anthropometric Analysis." *International Journal of Computer Vision* pp: 1–16 (2016).
12. Debora Gil, Sergio Vera, Agnes Borrás, Albert Andaluz, and Miguel A. Gonzalez Ballester. "Anatomical Medial Surfaces with Efficient Resolution of Branches Singularities." *Medical Image Analysis* (2016).
13. E. Avotsa, M. Daneshmandi, Andres Traumann, Sergio Escalera, and G. Anbarjafari. "Automatic garment retexturing based on infrared information." *Computers & Graphics* 59: 28–38 (2016).
14. Francesco Ciompi, Simone Balocco, Juan Rigla, Xavier Carrillo, Josefina Mauri, and Petia Radeva. "Computer-Aided Detection of Intra-Coronary Stent in Intravascular Ultrasound Sequences." *Medical Physics* 43, no. 5: 5616 (2016).
15. Frederic Sampedro, Anna Domenech, Sergio Escalera, and Ignasi Carrio. "Computing quantitative indicators of structural renal damage in pediatric DMSA scans." *Revista Española de Medicina Nuclear e Imagen Molecular* (2016).
16. Gerard Canal, Sergio Escalera, and Cecilio Angulo. "A Real-time Human-Robot Interaction system based on gestures for assistive scenarios." *Computer Vision and Image Understanding* 149: 65–77 (2016).
17. Gloria Fernandez-Esparrach, Jorge Bernal, Maria Lopez-Ceron, Henry Cordova, Cristina Sanchez-Montes, Cristina Rodriguez de Miguel, and F. Javier Sanchez. "Exploring the clinical potential of an automatic colonic polyp detection method based on the creation of energy maps." *Endoscopy* 48, no. 9: 837–842 (2016).
18. Hugo Jair Escalante, Victor Ponce, Sergio Escalera, Xavier Baro, Alicia Morales-Reyes, and Jose Martinez-Carranza. "Evolving weighting schemes for the Bag of Visual Words." *Neural Computing and Applications Journal* (2016): 1–15.
19. J.P. Jacob, Mariella Dimiccoli, and L. Moisan. "Active skeleton for bacteria modelling." *Journal of Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization* pp. 1–13 (2016).

20. Jiaolong Xu, Sebastian Ramos, David Vazquez, and Antonio Lopez. "Hierarchical Adaptive Structural SVM for Domain Adaptation." *International Journal of Computer Vision* 119, n 2: 159-178, (2016).
21. Jose Garcia-Rodriguez, Isabelle Guyon, Sergio Escalera, Alexandra Psarrou, Andrew Lewis, and Miguel Cazorla. "Editorial: Special Issue on Computational Intelligence for Vision and Robotics." *Neural Computing and Applications* (2016).
22. Juan Ramon Terven Salinas, Bogdan Raducanu, Maria Elena Meza de Luna, and Joaquin Salas. "Head-gestures mirroring detection in dyadic social linteractions with computer vision-based wearable devices." *Neurocomputing* 175, no. B: 866–876(2016).
23. Katerine Diaz, Aura Hernandez-Sabate, and Antonio Lopez. "A reduced feature set for driver head pose estimation." *Applied Soft Computing* 45: 98–107(2016).
24. L. Calvet, A. Ferrer, M. Gomes, A. Juan, and David Masip. "Combining Statistical Learning with Metaheuristics for the Multi-Depot Vehicle Routing Problem with Market Segmentation." *Computers & Industrial Engineering* 94: 93–104(2016).
25. Lluís Gomez, and Dimosthenis Karatzas. "A fast hierarchical method for multi-script and arbitrary oriented scene text extraction." *International Journal on Document Analysis and Recognition* 19, no. 4: 335–349 (2016).
26. M. Oliver, G. Haro, Mariella Dimiccoli, B. Mazin, and C. Ballester. "A Computational Model for Amodal Completion." *Journal of Mathematical Imaging and Vision* (2016).
27. Maedeh Aghaei, Mariella Dimiccoli, and Petia Radeva. "Extended Bag-of-Tracklets for Multi-Face Tracking in Egocentric Photo-streams." *Journal of Computer Vision and Image Understanding* (2016).
28. Maedeh Aghaei, Mariella Dimiccoli, and Petia Radeva. "Multi-face tracking by extended bag-of-tracklets in egocentric photo-streams." *Journal of Computer Vision and Image Understanding* 149: 146–156 (2016).
29. Marc Bolaños, Mariella Dimiccoli, and Petia Radeva. "Towards Storytelling from Visual Lifelogging: An Overview." *IEEE Transactions on Human-Machine Systems* (2016).
30. Marc Oliu, Ciprian Corneanu, Kamal Nasrollahi, Olegs Nikisins, Sergio Escalera, Yunlian Sun, Haiqing Li, Zhenan Sun, Thomas B. Moeslund, and Modris Greitans. "Improved RGB-D-T based Face Recognition." *IET Biometrics* (2016).
31. Maria Elena Meza-de-Luna, Juan Ramon Terven Salinas, Bogdan Raducanu, and Joaquin Salas. "Assessing the Influence of Mirroring on the Perception of Professional Competence using Wearable Technology." *IEEE Transaction on Affective Computing* (2016).
32. Mariella Dimiccoli, Jean-Pascal Jacob, and Lionel Moisan. "Particle detection and tracking in fluorescence time-lapse imaging: a contrario approach." *Journal of Machine Vision and Applications* 27: 511–527 (2016).
33. Mariella Dimiccoli, Marc Bolaños, Estefania Talavera, Maedeh Aghaei, Stavri G. Nikolov, and Petia Radeva. "SR-Clustering: Semantic Regularized Clustering for Egocentric Photo Streams Segmentation." *Computer Vision and Image Understanding* (2016).
34. Mariella Dimiccoli. "Figure-ground segregation: A fully nonlocal approach." *Vision Research* 126: 308–317 (2016).

35. Miguel Angel Bautista, Antonio Hernandez, Sergio Escalera, Laura Igual, Oriol Pujol, Josep Moya, Veronica Violant, and Maria Teresa Anguera. "A Gesture Recognition System for Detecting Behavioral Patterns of ADHD." *IEEE Transactions on System, Man and Cybernetics, Part B* 46, no. 1: 136–147(2016).
36. Miguel Oliveira, Victor Santos, Angel Sappa, P. Dias, and A. Moreira. "Incremental Scenario Representations for Autonomous Driving using Geometric Polygonal Primitives." *Robotics and Autonomous Systems* 83: 312–325 (2016).
37. M. Oliveira, V. Santos, A. D. Sappa, P. Dias, A. Moreira. "Incremental texture mapping for autonomous driving." *Robotics and Autonomous Systems*, Vol. 84:113-128 (2016).
38. Mikkel Thogersen, Sergio Escalera, Jordi Gonzalez, and Thomas B. Moeslund. "Segmentation of RGB-D Indoor scenes by Stacking Random Forests and Conditional Random Fields." *Pattern Recognition Letters* 80: 208–215 (2016).
39. Onur Ferhat, and Fernando Vilariño. "Low Cost Eye Tracking: The Current Panorama." *Computational Intelligence and Neuroscience*, Article ID 8680541, (2016).
40. Pau Riba, Josep Lladós, Alicia Fornes, and Anjan Dutta. "Large-scale graph indexing using binary embeddings of node contexts for information spotting in document image databases." *Pattern Recognition Letters*, Vol. 87: 203-211 (2016).
41. Pedro Martins, Paulo Carvalho, and Carlo Gatta. "On the completeness of feature-driven maximally stable extremal regions." *Pattern Recognition Letters* 74: 9–16 (2016).
42. Pejman Rasti, Salma Samiei, Mary Agoyi, Sergio Escalera, and Gholamreza Anbarjafari. "Robust non-blind color video watermarking using QR decomposition and entropy analysis." *Journal of Visual Communication and Image Representation* 38: 838–847 (2016).
43. R. Schettini, Joost van de Weijer, C. Cusano, and P. Napoletano. "Special Section Guest Editorial: Color in Texture and Material Recognition." *Journal of Electronic Imaging* 25, no. 6 (2016).
44. Santiago Seguí, Michal Drozdal, Guillem Pascual, Petia Radeva, Carolina Malagelada, Fernando Azpiroz, and Jordi Vitria. "Generic Feature Learning for Wireless Capsule Endoscopy Analysis." *Computers in Biology and Medicine* 79: 163–172 (2016).
45. Sergio Escalera, Jordi Gonzalez, Xavier Baro, and Jamie Shotton. "Guest Editors' Introduction to the Special Issue on Multimodal Human Pose Recovery and Behavior Analysis." *IEEE Transactions on Pattern Analysis and Machine Intelligence* 28 (2016).
46. Sergio Escalera, Vassilis Athitsos, and Isabelle Guyon. "Challenges in multimodal gesture recognition." *Journal of Machine Learning Research* 17: 1–54 (2016).
47. Sumit K. Banchhor, Tadashi Araki, Narendra D. Londhe, Nobutaka Ikeda, Petia Radeva, Ayman El-Baz, Luca Saba, Andrew Nicolaidis, Shoaib Shafique, John R. Laird et al. "Five multiresolution-based calcium volume measurement techniques from coronary IVUS videos: A comparative approach." *Computer Methods and Programs in Biomedicine* 134: 237–258 (2016).
48. Svebor Karaman, Andrew Bagdanov, Lea Landucci, Gianpaolo D'Amico, Andrea Ferracani, Daniele Pezzatini, and Alberto del Bimbo. "Personalized multimedia content delivery on an interactive table by passive observation of museum visitors." *Multimedia Tools and Applications* 75, no. 7: 3787–3811 (2016).

49. Tadashi Araki, Sumit K. Banchhor, Narendra D. Londhe, Nobutaka Ikeda, Petia Radeva, Devarshi Shukla, Luca Saba, Antonella Balestrieri, Andrew Nicolaides, Shoaib Shafique et al. "Reliable and Accurate Calcium Volume Measurement in Coronary Artery Using Intravascular Ultrasound Videos." *Journal of Medical Systems* 40, no. 3: 51:1–51:20(2016).
50. Xavier Perez Sala, Fernando De la Torre, Laura Igual, Sergio Escalera, and Cecilio Angulo. "Subspace Procrustes Analysis." *International Journal of Computer Vision* (2016).

10.4 Journals (5)

1. Alicia Fornes, Josep Lladós, Oriol Ramos Terrades, and Marçal Rusiñol. "La Visió per Computador com a Eina per a la Interpretació Automàtica de Fonts Documentals." *ligall, Revista Catalana d'Arxivística* 39: 20–46 (2016)".
2. Marc Sunset Perez, Marc Comino Trinidad, Dimosthenis Karatzas, Antonio Chica Calaf, and Pere Pau Vazquez Alcocer. "Development of general-purpose projection-based augmented reality systems." *IADIS International journal on computer science and information systems* 11, no. 2: 1–18(2016).
3. Mariella Dimiccoli. "Fundamentals of cone regression." *Journal of Statistics Surveys* 10: 53–99 (2016).
4. Ozan Caglayan, Walid Aransa, Yaxing Wang, Marc Masana, Mercedes Garcia-Martinez, Fethi Bougares, Loic Barrault, and Joost van de Weijer. Does Multimodality Help *Human and Machine for Translation and Image Captioning*, 2016.
5. Maria Salamo, Inmaculada Rodriguez, Maite Lopez, Anna Puig, Simone Balocco, and Mariona Taule. "Recurso docente para la atención de la diversidad en el aula mediante la predicción de notas." *ReVision* 9, no. 1 (2016).

10.5 International Conferences (77)

1. Alvaro Peris, Marc Bolaños, Petia Radeva, and Francisco Casacuberta. "Video Description Using Bidirectional Recurrent Neural Networks." In *25th International Conference on Artificial Neural Networks*, 3–11. Vol. 2, 2016.
2. Anders Hast, and Alicia Fornes. "A Segmentation-free Handwritten Word Spotting Approach by Relaxed Feature Matching." In *12th IAPR Workshop on Document Analysis Systems*, 150–155, 2016.
3. Anjan Dutta, Umapada Pal, and Josep Lladós. "Compact Correlated Features for Writer Independent Signature Verification." In *23rd International Conference on Pattern Recognition*, 2016.
4. Antoni Gurgui, Debora Gil, Enric Marti, and Vicente Grau. "Left-Ventricle Basal Region Constrained Parametric Mapping to Unitary Domain." In *7th International Workshop on Statistical Atlases & Computational Modelling of the Heart*, 163–171. Vol. 10124. LNCS, 2016.
5. Antonio Esteban Lansaque, Carles Sanchez, Agnes Borrás, M. Díez-Ferrer, A. Rosell, and Debora Gil. "Stable Airway Center Tracking for Bronchoscopic Navigation." In *28th Conference of the international Society for Medical Innovation and Technology*, 2016.
6. Antonio Esteban Lansaque, Carles Sanchez, Agnes Borrás, M. Díez-Ferrer, A. Rosell, and Debora Gil. "Stable Anatomical Structure Tracking for video-bronchoscopy Navigation." In *19th International Conference on Medical Image Computing and Computer Assisted Intervention –*

CLIP workshop, 2016.

7. Sergio Escalera, Jordi Gonzalez, Xavier Baro, Fernando Alonso, and Martha Mackay. "Care Respite: a remote monitoring eHealth system for improving ambient assisted living." *Human Motion Analysis for Healthcare Applications* (2016).
8. Arash Akbarinia, and C. Alejandro Parraga. "Biologically plausible boundary detection." In *27th British Machine Vision Conference*, 2016.
9. Arash Akbarinia, and C. Alejandro Parraga. "Dynamically Adjusted Surround Contrast Enhances Boundary Detection, European Conference on Visual Perception." In *European Conference on Visual Perception*, 2016.
10. Aura Hernandez-Sabate, Lluís Albarracín, Daniel Calvo, and Nuria Gorgorio. "EyeMath: Identifying Mathematics Problem Solving Processes in a RTS Video Game." In *5th International Conference Games and Learning Alliance*, 50–59. Vol. 10056. LNCS, 2016.
11. Baiyu Chen, Sergio Escalera, Isabelle Guyon, Victor Ponce, N. Shah, and Marc Oliu. "Overcoming Calibration Problems in Pattern Labeling with Pairwise Ratings: Application to Personality Traits." In *14th European Conference on Computer Vision. Workshop and Challenge on Apparent Personality Analysis*, 2016.
12. C. Alejandro Parraga, and Arash Akbarinia. "Colour Constancy as a Product of Dynamic Centre-Surround Adaptation." In *16th Annual meeting in Vision Sciences Society*. Vol. 16, 2016.
13. Carles Sanchez, Debora Gil, Jorge Bernal, F. Javier Sanchez, Marta Diez-Ferrer, and Antoni Rosell. "Navigation Path Retrieval from Videobronchoscopy using Bronchial Branches." In *6th Workshop on Clinical Image-based Procedures: Translational Research in Medical Imaging*, 62–70. Vol. 9401. LNCS, 2016.
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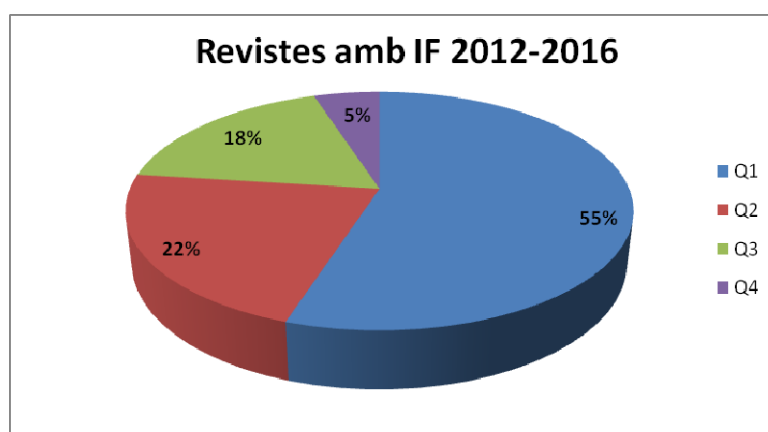
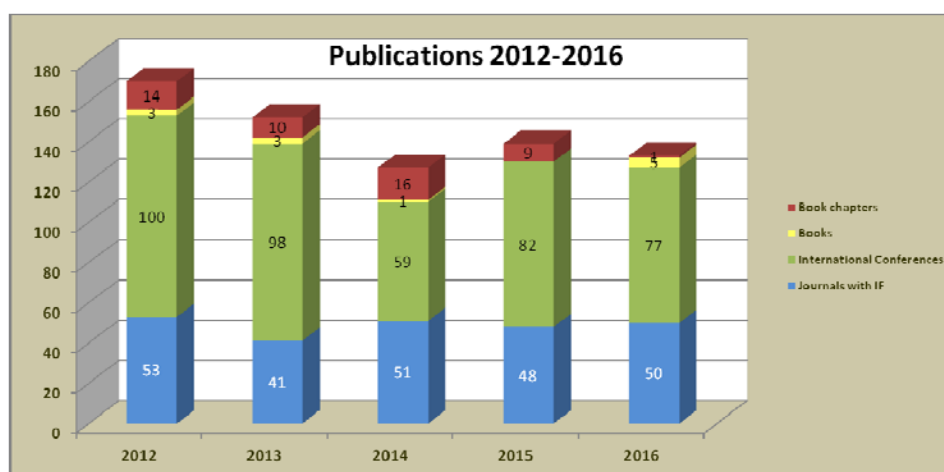
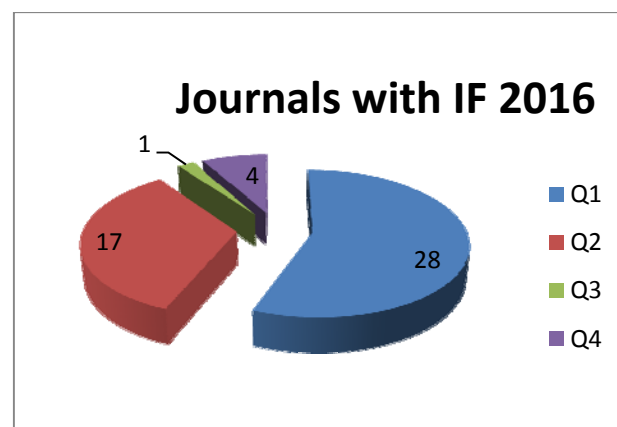
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Fact Sheet - Publications

Publications 2016	Number
IF Journals	50
International Conferences	77
Books	5
Miscellanea	11



11. Organization of Conferences, Workshops and other research and dissemination activities

WACV 2016: IEEE Winter Conference on Applications of Computer Vision

Area chair Sergio Escalera & Bogdan Raducanu

Place: Lake Placid – NY (USA)

Dates: March 7-9 , 2016

<http://www.wacv16.org/>

2nd Summer School on Integrating Vision and Language 2016 (iV&LSS 2016)

Co-organizer: Jordi González

Place: Malta

Date: March 21-24, 2016

<http://ivl-net.eu/ivl-net-training-school-2016/>

12th IAPR International Workshop on Document Analysis Systems (DAS 2016)

Program Co-Chair: Josep Lladós

Tutorial Co-Chair: Dimosthenis Karatzas

Place: Santorini (Greece)

Date: April 12-14, 2016

<http://www.primaresearch.org/das2016/>

CVVT 2016 - 7th international Workshop on Computer Vision in Vehicle Technology, in conjunction with CVPR2016

Organizers: Antonio M. López, David Vázquez

Place: Las Vegas (USA)

Date: June 2016

<http://adas.cvc.uab.es/cvvt2016/>

ChaLearn LAP and FotW Challenge and Workshop, Face Analysis Workshop and Challenge, in conjunction with CVPR2016,

Co-organizers: Sergio Escalera & Xavier Baró

Place: Las Vegas (USA)

Date: July 1, 2016

<https://sites.google.com/a/chalearn.org/gesturechallenge/2016-looking-at-people-cvpr-challenge>

AMDO 2016 – IX Conference Articulated Motion of Deformable Objects

Organizing Committee: Sergio Escalera

Place: Palma de Mallorca (Spain)

Date: July 13-15, 2016

<http://amdo2016.uib.es/>

IJCNN-03 Machine Learning Methods Applied to Vision and Robotics (MLMVR), in IEEE World Congress on Computational Intelligence

Coorganizer: Sergio Escalera

Place: Vancouver (Canada)

Date: July 24, 2016

<http://wcci2016.org/programs.php?id=spsession?sd=info>

ECVP'16 European Conference on Visual Perception, Barcelona

Co-organizers: Maria Vanrell, Xavier Otazu, Alejandro Párraga

Place: Barcelona

Date: August 28 – September 1, 2016

<http://www.ub.edu/ecvp/>

2nd International Workshop on Rubust Reading, in conjunction with ECCV'2016

Co-organizer: Dimosthenis Karatzas

Place: Amsterdam (The Netherlands)

Date: October 9, 2016

<http://www.cvc.uab.es/iwrr2016/?c=home>

Transferring and Adapting Source Knowledge in Computer Vision" (TASK-CV), en ECCV'2016,

Co-organizers: Antonio López, David Vázquez

Place: Amsterdam (The Netherlands)

Date: October 9, 2016

<http://adas.cvc.uab.es/task-cv2016>

2016 Looking at People ECCV Challenge, in conjunction with ECCV'2016

Co-organizers: Sergio Escalera & Xavier Baró.

Place: Amsterdam (The Netherlands)

Date: October 9, 2016

<http://gesture.chalearn.org/2016-looking-at-people-eccv-workshop-challenge>

Virtual/Augmented Reality for Visual Artificial Intelligence (VARVAI), in conjunction with the ECCV 2016 and ACM-MM 2016

Workshop Co-Chairs: Antonio López, Germán Ros

Place: Amsterdam (The Netherlands)

Date: October 16, 2016

<http://adas.cvc.uab.es/varvai2016>

LTA2016 – The first Workshop on Lifelogging Tools and Applications, in ACM Multimedia 2016

Workshop organizers: Petia Radeva and Mariella Dimiccoli

Place: Amsterdam (The Netherlands)

Date: October 16, 2016

<http://lta2016.computing.dcu.ie/>

ICMV2016 - 9th international conference on machine vision

Conference Co-Chair: Petia Radeva

Place: Nice (France)

Date: November 18-20, 2016

<http://icmv.org/com.html>

24 Color and Imaging Conference (CIC24)

Workshop co-chair: Maria Vanrell

Place: San Diego, CA (USA)

Date: November 7-11, 2016

https://www.imaging.org/site/PDFS/Conferences/CIC/CIC24_Preliminary_Program_lr.pdf

Joint Contest on Multimedia Challenges Beyond Visual Analysis, Workshop and Challenge on Multimedia Challenges in conjunction with ICPR 2016

Co-organizers: Sergio Escalera & Xavier Baró

Contest cochair: Xavier Baró

Place: Cancún (Mexico)

Date: December 4, 2016

https://sites.google.com/a/chalearn.org/gesturechallenge/icpr2016_contest

2016 – NIPS: Neural Information Processing Systems

Area Chair: Sergio Escalera

Place: Barcelona (Spain)

Date: December 5, 2016

<https://nips.cc/>

Challenges in Machine Learning: Gamming and Education CiML 2016 Workshop, in conjunction with NIPS 2016

Workshop CoChair: Sergio Escalera

Place: Barcelona (Spain)

Date: December 9, 2016

<http://ciml.chalearn.org/>

Machine Learning for Spatiotemporal Forecasting Workshop, in conjunction with NIPS 2016

Coorganizer: Sergio Escalera and Xavier Baró

Place: Barcelona (Spain)

Date: December 10, 2016

<http://see4c.eu/workshop/2/description/>

12. Awards

Google Summer of Code – GSoC 2016, Angelos Nicolau (Student) and Lluís Gómez Bigordà (Open Mentor for GSoC), project title “Extending the text module with deep Word-spotting CNN”

Winners of the crowdsourcing challenge, Carles Sánchez and Debora Gil, organized by Pallas Ludens. April 2016.

Best poster award, Víctor Company, David Vázquez and Antonio Lopez for “GPU-based pedestrian detection for autonomous driving”, GTC (GPU Technology Conference), San Jose, CA (USA), April 2016.

Businnes track winners, Laura López and Marc Masana -Accenture Digital Dataton, Barcelona (Spain), May 21-22, 2016

Best student paper award-2016, Dennis H. Lundtoft, Kamal Nasrollahi, Thomas B. Moeslund and Sergio Escalera, for the paper “Spatiotemporal Facial Super-Pixels for Pain Detection”. 2016 – AMDO conference, Palma de Mallorca (Spain), July 13-15, 2016

Best commercial paper award- Mark Philip Philipsen, Anders Jorgensen, Sergio Escalera and Thomas B. Moeslund, for the paper “RGB-D Segmentation of Poultry Entrails”. AMDO conference, Palma de Mallorca (Spain), July 13-15, 2016

3rd Prize at 5th Workshop on Clinical Image-Based Procedures, Antonio Esteban, Carles Sánchez, A. Borrás, M.Díez-Ferrer, A. Rosell and Debora Gil, for the paper “Stable Anatomical Structure Tracking for video-bronchoscopy Navigation”. MICCAI 2016, Athens (Greece), October 17, 2016

3rd Best presentation award at AABIP-CHEST, Debora Gil, Carles Sánchez and Agnès Borràs for the work Positive airway pressure-enhanced CT to improve virtual bronchoscopic navigation, AABIP-CHEST Los Angeles (USA), October 26, 2016

Best paper award in 21st Iberoamerican Congress on Pattern Recognition (CIARP 2016), Santi Seguí, Michal Drozdal, Guillem Pascual, Carolina Malagelada, Fernando Azpiroz, Petia Radeva and Jordi Vitrià for the paper: “Deep Learning Features for Wireless Capsule Endoscopy Analysis”, Lima (Perú), November 8th-11th 2016.
<http://www.ciarp.org>

“Aurora Pons Porrata” award from CIARP 2016, given to a living woman in recognition of her outstanding contribution to the field of pattern recognition and data mining, to Dr. Petia Radeva Milab Group
Lima (Perú), November 8th-11th 2016.

IAPR Fellow awarded by Dr. Petia Radeva, for her contributions to Computer Vision, Machine Learning, Egocentric Vision, Life-logging, and Medical Imaging scientific merits.
7th Session of the International Association of Reconstruction of Patrons (IAPR), Cancún (México), December 2016

13. Service to Profession

- Dr. Sergio Escalera, Chair of IAPR Technical Committee 12 (Multimedia and visual information systems)
- Dr. Dimosthenis Karatzas, Chair of the IAPR Technical Committee 11 (Reading Systems)
- Dr. Josep Lladós, Chair of the IAPR Education Committee