



## Research Activity 2017



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**)**

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1/35980/22012018130421,  
serialNumber=IDCES-46664310R,  
givenName=JOSEP, sn=LLADOS  
CANET, cn=46664310R JOSEP  
LLADOS (R: Q5856375J),  
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## 0. Summary

<b>RESEARCH PERSONNEL</b>	
Postdoc Researchers	43
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## 1. Research Personnel

### 1.1 Composition

As of 31 December 2017, CVC personnel who perform research activities are composed by:

#### POST-DOC RESEARCHERS (43):

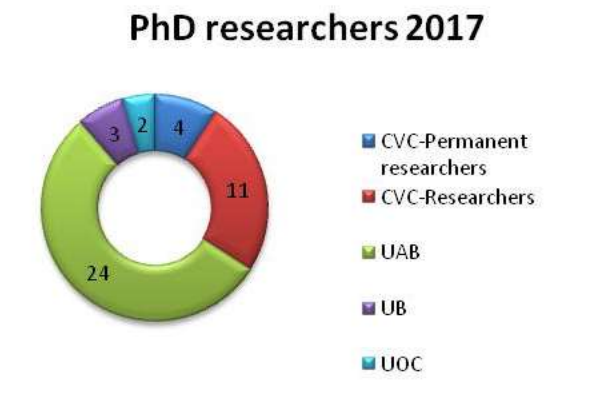
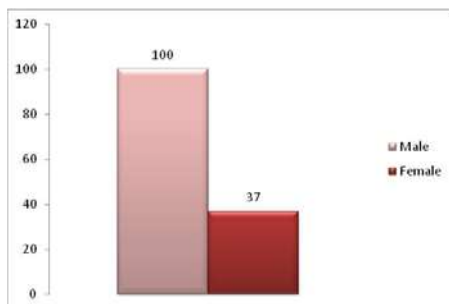
- **Permanent (19):** including 4 senior researchers contracted by CVC and also 18 university professors from UAB, UB and UOC.
- **Postdoc contracts (24):** including Ramón y Cajal, Marie Curie and Tecniosprings fellows, as well as those hired by the CVC and the UAB, UB and UOC universities.

**PHD. STUDENTS (54):** 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 university.

**INTERNSHIPS (45):** During 2017, 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. 15 of these internships were carried out by students coming from France, Italy, India, Guatemala, Equador, Venezuela, Uruguay, Canada and China

In some cases, these stages have been the introduction to research work.

#### RESEARCHER PROFILE:



## 1.2 SGR Groups –provisional resolution

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:** 2017 SGR 649

**FUNDING ENTITY:** AGAUR

**DURATION:** 2014-2017

**TOTAL AWARDED:** 15.000,00 €

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

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

**REFERENCE:** 2017 SGR 1669

**FUNDING ENTITY:** AGAUR

**TOTAL AWARDED:** 10.000,00 €

**RESEARCHER:** **Dr. Jorge Bernal**

**TITLE:** *Group on Intelligent Reading Systems*

**REFERENCE:** 2017 SGR 1783

**FUNDING ENTITY:** AGAUR

**TOTAL AWARDED:** 36.000,00 €

**RESEARCHER:** **Dr. Josep Lladós**

**TITLE:** *ACDC – Automated and Cooperative Driving in the City*

**REFERENCE:** 2017 SGR 1597

**FUNDING ENTITY:** AGAUR

**RESEARCHER:** **Dr. Antonio López**

**TITLE:** *Multispectral Image Analysis and Understanding*

**REFERENCE:** 2017 SGR 1183

**FUNDING ENTITY:** AGAUR

**RESEARCHER:** **Dr. Daniel Ponsa**

**TITLE:** *Microelectronic Technology Applied to Cyber-physical Systems and Biomedical Image Processing*

**REFERENCE:** 2017 SGR 1624

**FUNDING ENTITY:** AGAUR

**RESEARCHER:** Dr. Lluís Terés (CNM). IP CVC: **Dr. Debora Gil**

## 2. Competitive Projects

### 2.1 Awarded in 2017

#### 2.1.1 R+D Projects

**TITLE:** *XARXES: Tecnologia i innovació ciutadana en la construcció de xarxes socials històriques per a la comprensió del llegat demogràfic*

**REFERENCE:** RECERCAIXA 2016

**FUNDING ENTITY:** ACUP/Obra Social La Caixa

**DURATION:** 15/02/2017 – 14/02/2019

**TOTAL AWARDED:** 4.9324,57 €

**PRINCIPAL INVESTIGATORS:** **Dr. Alicia Fornés**

**TITLE:** *"Enseñando a mi Coche a Conducir" - Conducción Autónoma mediante Representaciones de Entrada-Salida. DGT 2017*

**REFERENCE:** SPIP2017-02237

**FUNDING ENTITY:** DGT

**DURATION:** 01/04/2017 – 31/03/2018

**TOTAL AWARDED:** 49.857,50 €

**PRINCIPAL INVESTIGATORS:** **Dr. Antonio López**

**TITLE:** *aBSINTHE: Búsqueda Semántica de ImágeNes y Texto en HEmerotecas digitales*

**REFERENCE:** Fundación BBVA 2017

**FUNDING ENTITY:** BBVA

**DURATION:** 30/11/2017 – 30/11/2019

**TOTAL AWARDED:** 74.526,00 €

**PRINCIPAL INVESTIGATORS:** **Dr. Marçal Rossinyol**

**TITLE:** *Synthia: synthetic collection of annotated images of driving scenarios*

**REFERENCE:** 2016 PROD 00069

**FUNDING ENTITY:** AGAUR

**DURATION:** 26/07/2017 – 26/01/2019

**TOTAL AWARDED:** 78.537,50 €

**PRINCIPAL INVESTIGATORS:** **Dr. Antonio López**

**TITLE:** *DIGITUSII. Automatic Indexation Service for Handwritten*

**REFERENCE:** 2016 LLAV 00057

**FUNDING ENTITY:** AGAUR

**DURATION:** 21/07/2017 – 26/02/2018

**TOTAL AWARDED:** 20.000,00 €

**PRINCIPAL INVESTIGATORS:** **Dr. Marçal Rossinyol**

**TITLE:** *Módulo automático de reciclaje con capacidad de aprendizaje*

**REFERENCE:** BOTEC17-1-0059

**FUNDING ENTITY:** ACCIÓ

**DURATION:** 15/11/2017 – 15/07/2018

**TOTAL AWARDED:** 20.000,00 €

**PRINCIPAL INVESTIGATORS:** **Dr. Ramon Baldrich**

**TITLE:** *Desenvolupament d'un primer demostrador de visió a fàbrica*  
**REFERENCE:** BOTE17-1-0031  
**FUNDING ENTITY:** ACCIÓ  
**DURATION:** 01/08/2017 – 31/03/2018  
**TOTAL AWARDED:** 7.312,25 €  
**PRINCIPAL INVESTIGATORS:** **Coen Antens**

**TITLE:** *RECovering our Ancestors' Life Logs. Interpreting the history from population documents locked in historical archives*  
**REFERENCE:** EUIN2017- 89223  
**FUNDING ENTITY:** MINECO  
**DURATION:** 01/01/2017 – 14/09/2019  
**TOTAL AWARDED:** 6.000,00 €  
**PRINCIPAL INVESTIGATORS:** **Dr. Josep Lladós**

**Other grants:**

**TITLE:** *Tecnio 2016*  
**REFERENCE:** TECCIT16-1-0035  
**FUNDING ENTITY:** ACCIÓ  
**DURATION:** 01/01/2016 – 30/03/2018 (extended)  
**TOTAL AWARDED:** 12.916,00 €  
**PRINCIPAL INVESTIGATORS:** **Meritxell Bassolas**

**2.2. In execution in 2017**

**2.2.1 R+D projects.**

**National 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:** 2014-2017 (extended)  
**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 (extended)  
**TOTAL AWARDED:** 60.500,00 €  
**PRINCIPAL INVESTIGATOR:** **Dr. Alejandro Parraga**



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

**FUNDING ENTITY:** RECERCAIXA

**DURATION:** 2014-2017

**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:** 109.021,00 €

**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. Antonio López / Dr. David 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:** 2015-2018 (extended)

**TOTAL AWARDED:** 82.643,00 €

**PRINCIPAL INVESTIGATOR:** **Dr. Angel Sappa / Dr. Felipe 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:** 2015-2018 (extended)

**TOTAL AWARDED:** 114.345,00 €

**PRINCIPAL INVESTIGATOR:** **Dr. Maria Vanrell / Dr. Robert Benavente**

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

**REFERENCE:** DPI2015-65286-R

**FUNDING ENTITY:** MINECO

**DURATION:** 2016-2018 (extended)

**TOTAL AWARDED:** 173.877,00 €

**PRINCIPAL INVESTIGATOR:** **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:** MINECO

**DURATION:** 2016-2018

**TOTAL AWARDED:** 86.394,00€

**PRINCIPAL INVESTIGATOR:** **Dr. Josep Lladós / Dr. Alicia Fornés**

**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:** 30.000,00 €  
**PRINCIPAL INVESTIGATOR:** **Dr. Xavier 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. Antonio López**

**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:** MINECO  
**DURATION:** 2016-2019  
**TOTAL AWARDED:** 144.466,00 €  
**PRINCIPAL INVESTIGATOR:** **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:** MINECO  
**DURATION:** 2016-2018  
**TOTAL AWARDED:** 88.000,00 €  
**PRINCIPAL INVESTIGATOR:** **Dr. Joost van de Weijer**

**TITLE:** *Deep Multi-Task Learning for object Recognition*  
**REFERENCE:** TIN2016-79717-R  
**FUNDING ENTITY:** MINECO  
**DURATION:** 2016-2019  
**TOTAL AWARDED:** 39.446,00 €  
**PRINCIPAL INVESTIGATOR:** **Dr. Joost van de Weijer / Dr. Bogdan Raducanu**

#### **European projects:**

**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 Data*  
**REFERENCE:** IC 1307  
**FUNDING ENTITY:** COST  
**DURATION:** 2014-2018  
**RESEARCHERS:** **Dr. Jordi González & Dr. Sergio Escalera**

**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**

**Other grants:**

**TITLE:** *SENSA: System for Endoscopy Stenosis Assessment*  
**REFERENCE:** 2014 PROD 00065  
**FUNDING ENTITY:** AGAUR  
**DURATION:** 2015-2017  
**TOTAL AWARDED:** 46.330,00 €  
**PRINCIPAL INVESTIGATOR:** **Dr. Sergio Escalera**

**TITLE:** *Salut\_INNOBRAIN: Noves tecnologies per a la Innovació*  
**REFERENCE:** COMRDI15-1-0017-06  
**FUNDING ENTITY:** ACCIÓ  
**DURATION:** 02/01/2017-02/01/2020  
**TOTAL AWARDED:** 50.090,17 €  
**PRINCIPAL INVESTIGATOR:** **Dr. Sergio Escalera**

**TITLE:** *VEHICLE AUTÒNOM CONNECTAT (VEC)*  
**REFERENCE:** PIFE-079-16  
**FUNDING ENTITY:** Departament d'Empresa i Coneixement  
**DURATION:** 14/10/2016-30/06/2017  
**TOTAL AWARDED:** 42.8750,14 €  
**PRINCIPAL INVESTIGATOR:** **Dr. Sergio Escalera**

### 3. Human Resources Grants

#### 3.1 Awarded in 2017.

##### Pre-doc grants:

**TITLE:** *Exploiting the Interplay between Visual and Textual Image Content for Scene Interpretation*, Industrial Doctorate with Fundació Eurecat and UAB

**REFERENCE:** 2016 DI 084

**FUNDING ENTITY:** AGAUR

**DURATION:** 03/03/2017 – 02/03/2020

**HOLDER:** **Raul Álamo Gómez**

**ADVISOR:** **Dr. Dimosthenis Karatzas**

**TITLE:** *Making historical archives searchable. Multiwriter word recognition and spotting using transfer learning models*, Industrial Doctorate with Qidenus and UAB

**REFERENCE:** 2016 DI 095

**FUNDING ENTITY:** AGAUR

**DURATION:** 18/04/2017 – 17/04/2020

**HOLDER:** **Manuel Carbonell**

**ADVISORS:** **Dr. Alicia Fornés / Dr. Josep Lladós**

**TITLE:** *Making historical archives searchable. Semantic annotation of handwritten word images*, Industrial Doctorate with Qidenus and UAB

**REFERENCE:** 2016 DI 087

**FUNDING ENTITY:** AGAUR

**DURATION:** 18/04/2017 – 17/04/2020

**HOLDER:** **Lei Kang**

**ADVISORS:** **Dr. Alicia Fornés / Dr. Marçal Rossinyol**

**TITLE:** *FPI - Ayudas para contratos predoctorales para la formación de doctores*

**REFERENCE:** BES-2016-078042

**FUNDING ENTITY:** MINECO

**DURATION:** 05/06/2017 – 04/06/2021

**HOLDER:** **Esmitt Ramírez**

**ADVISOR:** **Dr. Debora Gil**

**TITLE:** *FI - Ajuts per a la contractació de personal investigador novell*

**REFERENCE:** 2017FI\_B00218

**FUNDING ENTITY:** AGAUR

**DURATION:** 01/05/2017 – 30/04/2020

**HOLDER:** **Marc Masana**

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

**TITLE:** *FPU – Ayudas para la formación de profesorado universitario.*

**REFERENCE:** FPU16/04131

**FUNDING ENTITY:** MINECO

**DURATION:** 30/10/2017 – 29/10/2021

**HOLDER:** **Jose Luis Gómez Zurita**

**ADVISOR:** **Dr. Antonio López**

### 3.2 In execution in 2017.

#### Post-doc grants:

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

**TITLE:** *Deep Learning for Autonomous Driving*  
**REFERENCE:** TECSPR15-1-0025  
**FUNDING ENTITY:** ACCIÓ  
**DURATION:** 2016-2018  
**HOLDER:** **Dr. David Vázquez**

**TITLE:** *P-Sphere Program*  
**FUNDING ENTITY:** UAB-Cofund Program  
**DURATION:** 15/03/2017 – 14/03/2020  
**HOLDER:** **Dr. Luis Herranz**

**TITLE:** *P-Sphere Program*  
**FUNDING ENTITY:** UAB-Cofund Program  
**DURATION:** 01/04/2017 – 31/03/2020  
**HOLDER:** **Kaustubh Kulkarni**

**TITLE:** *P-Sphere Program*  
**FUNDING ENTITY:** UAB-Cofund Program  
**DURATION:** 01/04/2017 – 31/03/2020  
**HOLDER:** **Dr. Anjan Dutta**

**TITLE:** *P-Sphere Program*  
**FUNDING ENTITY:** UAB-Cofund Program  
**DURATION:** 23/05/2017 – 22/05/2020  
**HOLDER:** **Dr. José Antonio Iglesias**

**TITLE:** *P-Sphere Program*  
**FUNDING ENTITY:** UAB-Cofund Program  
**DURATION:** 01/09/2017 – 31/08/2020  
**HOLDER:** **Dr. Zahra Sadeghi**

#### Pre-doc grants:

**TITLE:** *Doctorat Industrial XEROX*  
**FUNDING ENTITY:** XEROX  
**DURATION:** 2014-2018  
**HOLDER:** **César de Souza**  
**ADVISOR:** **Dr. Antonio López**

**TITLE:** *Beca FI*  
**REFERENCE:** 2014 FI\_B1 00151  
**FUNDING ENTITY:** AGAUR  
**DURATION:** 2014-2017  
**HOLDER:** **Meysam Madadi**  
**ADVISORS:** **Dr. Jordi González / Dr. Sergio Escalera**

**TITLE:** *Scytl Secure Electronic Voting, SA-UAB (Reconeixement de text documents electorals,* Industrial Doctorate with SCYTL and UAB  
**REFERENCE:** 2013 DI 067  
**FUNDING ENTITY:** AGAUR  
**HOLDER:** **Juan Ignacio Toledo**  
**ADVISORS:** **Dr. Josep Lladós / Dr. Alicia Fornés**

**TITLE:** *Fusió de dades de sensors de diferents bandes espectrals a partir d'imatges aèries obtingudes amb UAV,* Industrial Doctorate with CATUAV and UAB  
**REFERENCE:** 2014 DI 024  
**FUNDING ENTITY:** AGAUR  
**DURATION:** 2014-2017  
**HOLDER:** **Jordi Salvador**  
**ADVISORS:** **Dr. Felipe Lumbreras / Dr. Angel Sappa**

**TITLE:** *Document Forensics for Identity Fraud Detection using Mobile Images,* Industrial Doctorate with ICAR and UAB  
**REFERENCE:** 2014 DI 024  
**FUNDING ENTITY:** AGAUR  
**DURATION:** 2014-2017  
**HOLDER:** **Albert Berenguel**  
**ADVISOR:** **Dr. Josep Lladós**

**TITLE:** *Visual Search for Fashion Products,* Industrial Doctorate with Wide Eyes and UAB  
**REFERENCE:** 2016 DI 039  
**FUNDING ENTITY:** AGAUR  
**DURATION:** 2017-2020  
**HOLDER:** **Vacit Oguz Yacizi**  
**ADVISOR:** **Dr. Joost van de Weijer**

**TITLE:** *FPI - Ayudas para contratos predoctorales para la formación de doctores*  
**REFERENCE:** BES-2013-063756  
**FUNDING ENTITY:** MINECO  
**DURATION:** 2014-2017  
**HOLDER:** **Antoni Gurguí**  
**ADVISOR:** **Dr. Debora Gil**

**TITLE:** *FPI - Ayudas para contratos predoctorales para la formación de doctores*  
**REFERENCE:** BES-2015-073105  
**FUNDING ENTITY:** MINECO  
**DURATION:** 2016-2020  
**HOLDER:** **Dena Bazazian**  
**ADVISOR:** **Dr. Dimosthenis Karatzas**

**TITLE:** *FPI - Ayudas para contratos predoctorales para la formación de doctores*  
**REFERENCE:** BES-2015-073722  
**FUNDING ENTITY:** MINECO  
**DURATION:** 2016-2020  
**HOLDER:** **Hassan Ahmed Sial**  
**ADVISOR:** **Dr. Maria Vanrell / Dr. Robert Benavente**

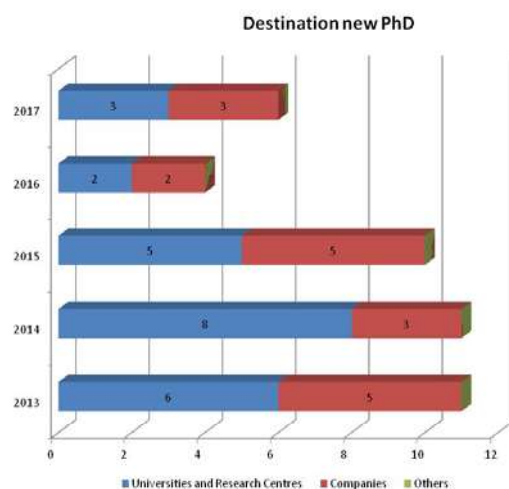
**TITLE:** *FPU – Ayudas para la formación de profesorado universitario.*  
**REFERENCE:** FPU15/06264  
**FUNDING ENTITY:** MECD  
**DURATION:** 2016-2020  
**HOLDER:** **Pau Riba**  
**ADVISOR:** **Dr. Josep Lladós**

## 4. PhD Thesis

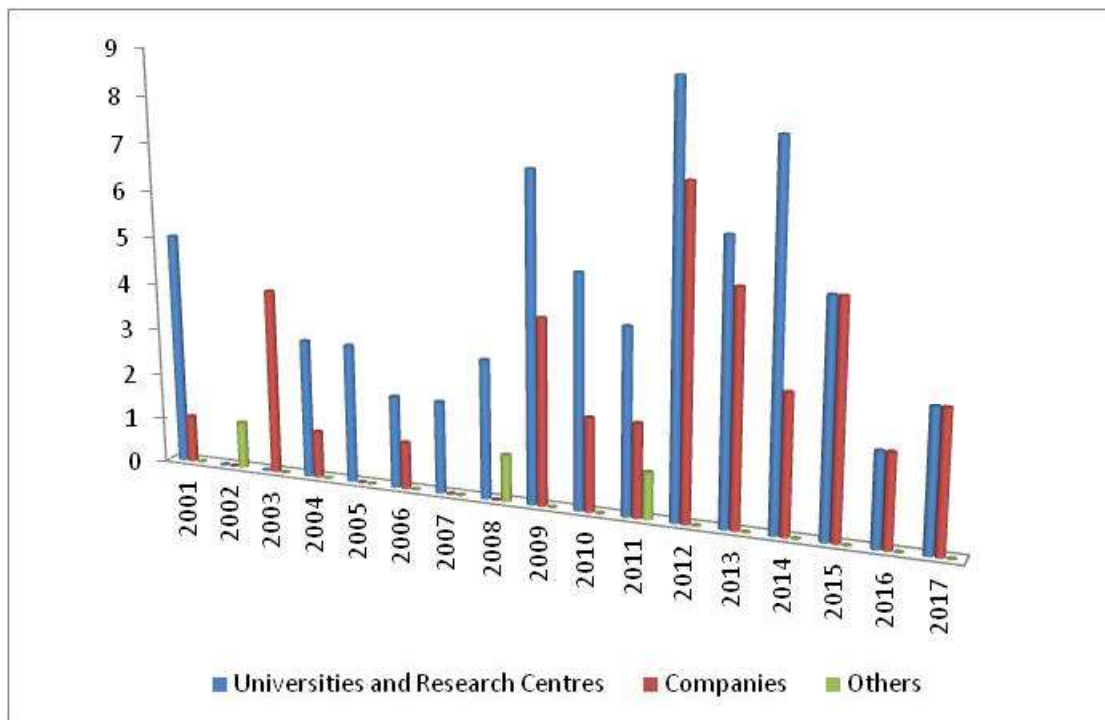
- **Youssef El Rhabi:** *"2D, 3D registration and application to augmented reality"*, June 12, 2017.  
Thesis in joint supervision with the Université de Caen Basse- Normandie  
Supervisors: **Dr. Josep Lladós**, Dr. Luc Brun
- **Onur Ferhat:** *"Analysis of Head-Pose Invariant, Natural Light Gaze Estimation Methods"*,  
September 20, 2017.  
Supervisor: **Dr. Fernando Vilariño**
- **Cristhian Aguilera:** *"Local Feature Description in Cross-spectral Imagery"*, September 29,  
2017.  
Supervisor: **Dr. Angel Sappa**
- **Arash Akbarinia:** *"Computational Model of Visual Perception"*, October 2, 2017.  
Supervisor: **Dr. C. Alejandro Párraga**
- **Meysam Madadi:** *"Human Segmentation, Pose Estimation and Applications"*, October 13,  
2017.  
Supervisors: **Dr. Sergio Escalera**, **Dr. Jordi González**, **Dr. Xavier Baró**
- **Ivet Rafegas:** *"Color in Visual Recognition: from Flat to Deep Representations and some  
Biological Parallelisms"*, November 13, 2017.  
Supervisor: **Dr. Maria Vanrell**

### Distribution of new PhD in 2017:

- **Universities and Research Centres (3):** Universitat Pompeu Fabra, Universidad de los Lagos (Chile) and CVC.
- **Companies (2):** Corporació Agroalimentària Guissona, Vintra (USA) and Dassault Systems (France)







Evolution – Destination of new PhD

## 5. Master thesis and Master projects

- Arantxa Casanova Pagà: *“Densely Connected Residual Networks for semantic segmentation”*  
Supervisors: **Antonio M. López** and Adriana Romero  
CVC, September 18, 2017
- **Arnau Baró Mas**: *“Optical Music Recognition by Long Short-Term Memory Recurrent Neural Networks”*  
Supervisor: **Alicia Fornés**  
CVC, September 18, 2017
- Alex Barroso Laguna: *“Key.Net: Keypoint Network”*  
Supervisor: **David M. Vázquez**  
CVC, September 18, 2017
- **Guillem Cucurull Preixens**: *“Graph Convolutional Neural Networks for Cortical Mesh Segmentation”*  
Supervisor: **Jordi González** and Adriana Romero  
CVC, September 18, 2017
- **Idoia Ruiz López**: *“Optimizing Speed/Accuracy Trade-off for Person Re-identification via Knowledge Distillation”*  
Supervisor: **Bogdan Raducanu**  
CVC, September 18, 2017
- **José Luis Gómez Zurita**: *“Tiramisu: Efficient DNNs for Semantic Segmentation”*  
Supervisor: **Antonio M. López**  
CVC, September 18, 2017
- Luis Lebrón Casas: *“Video summarization with subjectivity constraints for criminal investigation and other real-life use cases”*  
Supervisor: **Luis Herranz**  
CVC, September 18, 2017
- Pau Cebrián Trunas: *“Adversarial training for Semantic Segmentation: a performance analysis”*  
Supervisor: **Joan Serrat**  
CVC, September 18, 2017
- Roque Rodríguez Outeriel: *“Retrieving 3D information of tracheal structures from videobronchoscopy”*  
Supervisor: **Debra Gil**  
CVC, September 18, 2017
- Sergi Sancho Asensio: *“Reflectance estimation using an EURNet deep network architecture”*  
Supervisor: **Maria Vanrell**  
CVC, September 18, 2017
- **Víctor Campmany Canes**: *“Accelerating Inference for Image Captioning with Theano”*  
Supervisor: **David M. Vázquez**  
CVC, September 18, 2017
- Gonzalo Benito Piñero: *“Comparing classical and deep approaches for face recognition in a smartgym application”*  
Supervisors: **Josep Lladós** and **Sergio Escalera**  
CVC, September 18, 2017

## 6. Research stays

### 6.1. Outgoing Research stays

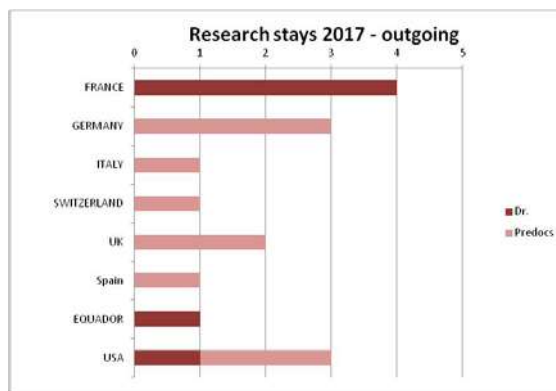
During 2017, CVC's research staff had carried out 16 research stays, all of them in labs outside Spain. Of these, a 13 were in centers in Europe and 3 in America.

#### Postdoctoral (5):

- **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. Xavier Otazu**, School of Psychology and Neuroscience, University of St. Andrew's, Scotland (UK). February to July 2017
- **Dr. Jorge Bernal**, ENSEA, Cergy (France). September 3-9, 2017
- **Dr. Jorge Bernal**, ENSEA, Cergy (France). November 5 to December 22, 2017
- **Dr. Javier Sánchez**, ENSEA, Cergy (France). November 21 to 24, 2017

#### Predoctoral (11):

- **Daniel Hernández**, Dept. of Environment Perception, Daimler AG (Germany), from January to July 2017. Supervisor: Dr. Uwe Franke
- **Arash Akbarinia**, Abteilung Allgemeine Psychologie, Justus-Leibig Universität (Germany), November 28 2016 to February 28 2017. Supervisor: Dr. Karl Gegenfurtner
- **Xim Cerdà**, School of Psychology and Neuroscience St. Andrew's (Scotland), February to July 2017.
- **David Berga**, CiTIUS, Universidade de Santiago de Compostela (Spain), February 28 to June 2017. Supervisors: Dr. Xose Manuel Pardo and Dr. Xose R. Fernandez Vidal
- **Lidia Rodrigues**, School of Psychology and Neuroscience St. Andrew's (Scotland), March to July 2017. Supervisor: Dr. Julie Harries
- **Gabriel Villalonga**, Mapillary Research, Graz (Austria), January 1 to April 15, 2017. Supervisor: Dr. Peter Kotschieder
- **Edgar Riba**, Arraiy Inc, Palo Alto (USA), from May 1 to October 31. Supervisor: Dr. Gary Bradski
- **Dena Bazazian**, Media Integration and Communication Center (MICC), Università degli Studi di Firenze (Italy), May 1 to July 1, 2017. Supervisor Dr. Andrew D. Bagdanov
- **Angelos Nikolau**, Google (USA), June to September 2017. Supervisor: Dr. Ray Smith
- **Felipe Codevilla**, Intel Labs, Munich (Germany), July 15 to December 15, 2017. Supervisor: Alexey Dosovitskiy
- **Pau Riba**, Université de Fribourg (Switzerland), October 2 to November 2, 2017. Supervisor: Andreas Fischer



## 6.2. Incoming Research stays

During 2017, we received 11 researchers coming from other centers and institutions. Of these, just 1 of them came from other universities in Spain. The rest were from other centres in Europe (7), America (2), and Asia (1).

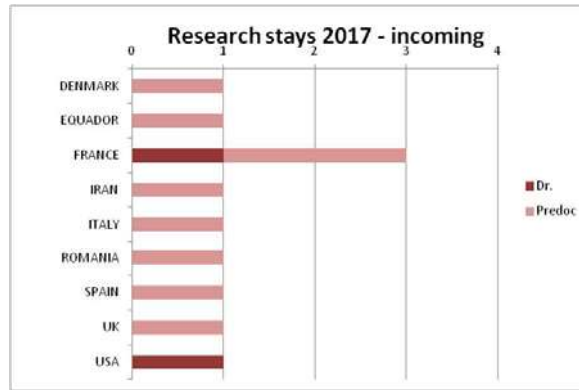
### Postdoctoral (2):

- **Dr. Jerod Weinman**, Department of Computer Science, Grinnell College IA (USA), from July 2016 to June 2017. Collaboration with **DAG group**.
- **Dr. Muzzamil Luqman**, Laboratoire Informatique, Image et Interaction (L2i), Université de La Rochelle, from July 1st to July 31, 2017. Collaboration with **DAG Group**.

### Predoctoral (9):

- **Maryam Asadi**, University of Tehran (Iran), from October 2016 to July 2017. Supervisor: **Dr. Sergio Escalera** (HuPBA group)
- **Chris Holmberg Bahnsen**, Department of Architecture, Design & Media Technology, Visual Analysis of People Lab (Denmark), from January 9 to April 11, 2017. Supervisor: **Dr. Antonio M. López** (ADAS group)
- **Farhood Negin**, STARS Team - INRIA Sophia Antipolis, February 2017. Supervisor: **Dr. Jorgi González** (ISE group)
- **Rada Deeb**, Hurbert Courien Laboratory - Université Jean Monnet, Saint-Étienne (France), from March to September 2017. Supervisor: **Dr. Joost van de Weijer** (LAMP group)
- **Adrián Colomer**, i3B - Instituto de Investigación e Innovación en Bioingeniería, Universitat Politècnica de València – UPV (Spain), from June 1st to June 30, 2017. Supervisors: **Dr. Debora Gil** (IAM group) and **Dr. Ramon Baldrich** (CIC group)
- **Sebastian Stefagnia**, Faculty of Mathematics & Informatics, West University of Timisoara (Romania), from June 19 to August 18, 2017. Supervisor: **Dr. Debora Gil** (IAM group)
- **Joe Frand Llerena**, Universidad Salesiana de Guayaquil, (Ecuador), September 21 to - October 26 2017. Supervisors: **Dr. David Vázquez** and **Dr. José A. Iglesias** (ADAS group)

- **Mohamed Ilyes Lakhali**, Queen Mary University (UK), September 2017. Supervisor: **Dr. Sergio Escalera** (HuPBA group)
- **Marco Buzzelli**, University of Milan-Bicocca (Italia), from October 2 to December 22, 2017. Supervisor: **Dr. Joost van de Weijer** (LAMP group)



### 6.3. International internships

During 2017, we received undergraduate and master studies to develop their projects or a training stage in some of the CVC research groups. 9 of these internships were carried out by students coming from foreign institutions and universities:

- Julien Bonnier, École de Technologie Supérieure (ÉTS), U. of Quebec, Montreal (Canada), from January 24 to April 30, 2017. Supervisor: **Dr. Sergio Escalera** (HuPBA group)
- Ashwin Sudhir, International Institute of Information Technology Hyderabad (India). May 1 to July 31, 2017. Supervisor: **Dr. Dimosthenis Karatzas** (DAG group)
- Shanu Vashishtha, IIT Kanpur (India), from May 7 to August 4, 2017. Supervisor: **Dr. Antonio M. López** (ADAS group)
- Akshay Pradip Mundra, BITS Pilani (India), from June 27 to December 15, 2017. Supervisor: **Dr. Antonio M. López** (ADAS group)
- Diego Porres, Master MathMods, from May 2 to November 26, 2017. Supervisor: **Dr. Antonio M. López** (ADAS group)
- Arka Ujjal Dey, Indian Institute of Technology Jodhpur (India), from October 2 to December 31, 2017. Supervisor: **Dr. Ernest Valveny** (DAG group)
- Rohan Raj, Delhi Technological University (India), from December 7, 2017 to February 16, 2018. Supervisor: **Dr. Antonio M. López** (ADAS group)
- Samkit Jain, Delhi Technological University (India), December 7, 2017 – February 16, 2018. Supervisor: **Dr. Antonio M. López** (ADAS group)
- Federico Lucchesi, Master MathMods, University of l'Acquila, May 2 to October 31, 2017. Supervisor: **Dr. Joan Serrat** (ADAS group)

## 7. Invited Talks by CVC personnel

### In conferences and workshops:

Title: *Sneak peek at the data and deep learning benchmarks*, in See4C Spatio-temporal Series Hackaton

Lecturer: **Dr. Sergio Escalera, Dr. Xavier Baró and Dr. Julio Jacques**

Place: Carqueiranne (France)

Date: February 2, 2017

Title: *Challenges and opportunities in Trademark Image Retrieval*, in European Cooperation Working Groups

Lecturer: **Dr. Marçal Rusiñol**

Place: European Union Intellectual Property Office (EUIPO), Alicante

Date: March 30, 2017

Title: *Deep Learning and Autonomous Driving*, in Congreso sobre Técnicas de Inteligencia Artificial para Minería de datos y Big data (Artificial Intelligence Techniques for Data Mining & Big Data)

Lecturer: **Dr. David Vázquez**

Place: Institute of Smart Cities Data Center, Universidad Pública de Navarra, Pamplona (Spain)

Date: April 4-6, 2017

Title: *Computer Vision for Historical Document Image Analysis*, in Digital Humanities Conference Abu Dhabi (DHAD)

Lecturer: **Dr. Alicia Fornés**

Place: NYU Abu Dhabi, United Arab Emirates

Date: April 10-12, 2017

Title: *Spatio-temporal forecasting from short clips of faces: Dataset*, in 5th International Conference on Video Forecasting, Lecturer: **Dr. Sergio Escalera, Dr. Xavier Baró and Dr. Julio Jacques**

Place: Toulon (France)

Date: April 22, 2017

Title: *Tens una camera? Tens intel·ligència artificial*, in Festa de la Ciència 2017

Lecturer: **Dr. Josep Lladós**

Place: Barcelona (Spain)

Date: May 27-29, 2017

Title: *Introducción al Deep Learning. ¿Qué es y qué puede hacer por mí?*, in Jornada DEEP LEARNING: La revolución Tecnológica de la Inteligencia Artificial

Lecturer: **Aitor Álvarez**

Place: Tecnalia (Spain)

Date: June 1, 2017

Title: *Thinking end-to-end in Computer Vision applications*, in Jornada DEEP LEARNING: La revolución Tecnológica de la Inteligencia Artificial

Lecturer: **Joost van de Weijer (invited speaker)**

Place: Tecnalia (Spain)

Date: June 1, 2017

Title: *Progresos en la Reconstrucción y Visualización 3D de Tomografías Computerizadas*, in V Workshop Internacional en Imagen Médica Captura e Integración de Datos Clínicos 2017

Lecturer: **Dr. Jose Antonio Iglesias**

Place: La Coruña

Date: June 23, 2017

Title: *Citizen experience as a powerful communication tool: Open Innovation and the role of Living Labs in EU*, in European Conference of Science Journalists 2017

Lecturer: **Dr. Fernando Vilariño**, E. Hubavenska, L. Bundgaard, S. Lipponen

Place: Copenhagen (Denmark)

Date: June 26, 2017

Title: *Food recogniton based on Deep Learning*, in Machine Learning and Data Mining (MLDM 2017)

Lecturer: **Dr. Petia Radeva**

Place: New York (USA)

Date: July 24, 2017

Title: *Social Networks of the Past: Recovering the ancestors' life logs from archival population documents*, invited talk in Pacific Rim Conference on Multimedia (PCM2017)

Lecturer: **Dr. Josep Lladós**

Place: Harbin (China)

Date: September 29, 2017

*Co-creation, co-generation of content and knowledge*, parallel group discussion with experts in "Digital Skills for Social Innovation, All Digital Summit 2017

Lecturer: **Dr. Fernando Vilariño**

Place: Barcelona (Spain)

Date: October 4-5, 2017

*Panel Discussion - Presenting Challenges*, (invited panelist) 2nd International workshop on Egocentric Perception, Interaction and Computing (EPIC), in conjunction with the International Conference on Computer Vision (ICCV2017)

Lecturer: **Dr. Mairella Dimiccoli**

Place: Venice (Italy)

Date: October 29, 2017

Title: *Fusing convolutional neural networks. application to food analysis*, in 10th International Conference on Machine Vision (ICMV 2017)

Lecturer: **Dr. Petia Radeva**

Place: Vienna (Austria)

Date: Novemver 14, 2017

Title: *New opportunities for challenges, looking to the future*, in Machine Learning Challenges as a Research Tool Workshop in conjunction with NIPS 2017

Lecturer: **Dr. Sergio Escalera**

Place: Long Beach (USA)

Date: December 9, 2017

### **In courses and tutorials:**

*How can Autonomous Cars See and Understand their Environment* (6h), in Big Data Analytics Summer School

Lecturer: **Dr. Aura Hernández**

Place: Essex University (UK)

Date: July 25, 2017

<https://www1.essex.ac.uk/iads/events/default.aspx>

*5th Lectures in the Erasmus Mundus Master COSI - COLOR IN SCIENCE AND INDUSTRY*

Lecturer: **Dr. Maria Vanrell**

Place: Granada (Spain)

Date: May 16, 17 and 18, 2017

Title: *GIAN Course on Analysis and Applications on Document Image Processing*

Lecturer: **Dr. Josep Lladós**

Place: Indian Institute of Technology Roorkee (India)

Date: December 4-8, 2017

Title: *Structure discovery in semantic representation*, in 2nd Winter School of Neuroscience

Lecturer: **Dr. Zahra**

Place: Shahid Beheshti University (SBU), Tehran (Iran)

Date: December 28, 2017

### **In institutions:**

Title: *Smart Videocolonoscopy: Intelligent Systems to Reduce Colon Cancer Incidence*

Lecturer: **Dr. Jorge Bernal**

Place: ENSEA, Cergy (France)

Date: February 13, 2017

Title: *Equiluminant Colour Induction in Flashed and Static Stimuli*

Lecturer: **Xim Cerdà** and **Dr. Xavier Otazu**

Place: Sottish Vision Group (SVG), Isle of Arran (Scotland, UK)

Date: March 11, 2017

Title: *Visual understanding from a first-person perspective of everyday interactions*

Lecturer: **Dr. Mariella Dimiccoli**

Place: University of Bristol (UK)

Date: May 23, 2017

Title: *Domain-adaptive Deep Networks*

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

Place: Telefónica, Barcelona

Date: June 30, 2017



Title: *Neurodynamical Evidence of Gaze Prediction Decrease with Saccade Number*

Lecturer: **David Berga**

Place: Colour and Vision Group (GVC), Universidad de Alicante, Alicante (Spain)

Date: July 7, 2017

Title: *Semantic Recognition in Historical Handwritten Documents*, in Complex Systems Working Lunch – CoSy Lunch Seminars Autom 2017

Lecturer: **Dr. Alicia Fornés**

Place: Department of Mathematics, Uppsala Univesitet

Date: August 29, 2017

<http://www.math.uu.se/cim/activities/complex-systems-workning-lunch/cosy-seminars-autumn-2017/>

Title: *Domain-adaptive network compression and ranking-based image quality assessment*

Lecturer: **Dr. Luis Herranz**

Place: Institute of Computing Technology, Chinese Academy of Sciences, Beijing (China)

Date: September 26, 2017

Title: *Towards human behaviour understanding from first-person vision.*

Lecturer: **Dr. Mariella Dimiccoli**

Place: Beijing Institute of Technology (China)

Date: September 22, 2017

Title: *Graph-based Representation for Document Analysis*

Lecturer: **Pau Riba**

Place: Université de Fribourg (Switzerland)

Date: October 19, 2017

Title: *CatLabs Program*

Lecturer: **Dr. Fernando Vilariño**

Place: Escola Catalana d'Administració Pública (Barcelona)

Date: September, 2017

Title: *What is new? Digital Transformation and Social Change*

Lecturer: **Dr. Fernando Vilariño**

Place: Escola Europea d'Humanitats (Barcelona)

Date: November 29, 2017

## 8. Invited Talks at CVC

*3D Mask Face Anti-Spoofing with Remote Photoplethysmography*

Speaker: Prof. Pong C. Yueng

Affiliation: Department of Computer Science, Hong Kong Baptist University

Date: February 3, 2017

*Semantic Segmentation of 3D Textured Meshes for Urban Scene Analysis,*

Speaker: Dr. Mohammad Rouhani

Affiliation: Pixmap, Nice (France)

Date: March 3, 2017

*Historical Map Alignment and Toponym Recognition with Geographic and Style Models,*

Speaker: Dr. Jerod Weinmann

Affiliation: Grinnell College, IA (USA)

Date: March 31, 2017

*Deep Multimodal and Contextual Visual Recognition,*

Speaker: **Dr. Luis Herranz**

Affiliation: CVC

Date: April 7, 2017

*Active Decision Boundary Annotation with Deep Generative Models*

Speaker: Dr. Jan van Gemert

Affiliation: Technical University Delft, Delft (The Netherlands)

Date: September 15, 2017

## 9. Publications

### 10.1 Books (6)

1. Antonio Lopez, Atsushi Imiya, Tomas Pajdla, and Jose Manuel Alvarez. *Closing Notes*. John Wiley & Sons, Ltd, 2017.
2. Arash Akbarinia. *Computational Model of Visual Perception: From Colour to Form*. Ph.D. thesis, Ediciones Graficas Rey, 2017.
3. Cristhian Aguilera. *Local feature description in cross-spectral imagery*. Ph.D. thesis, Ediciones Graficas Rey, 2017.
4. Ivet Rafegas. *Color in Visual Recognition: from flat to deep representations and some biological parallelisms*. Ph.D. thesis, Ediciones Graficas Rey, 2017.
5. Meysam Madadi. *Human Segmentation, Pose Estimation and Applications*. Ph.D. thesis, Ediciones Gráficas Rey, 2017.
6. Onur Ferhat. *Analysis of Head-Pose Invariant, Natural Light Gaze Estimation Methods*. Ph.D. thesis, Ediciones Graficas Rey, 2017.

### 10.2 Book Chapter (11)

1. Antonio Lopez, Jiaolong Xu, Jose L. Gomez, David Vazquez, and German Ros. "From Virtual to Real World Visual Perception using Domain Adaptation -- The DPM as Example", In *Domain Adaptation in Computer Vision Applications*, edited by Gabriela Csurka, 243–258. Springer, 2017.
2. David Geronimo, David Vazquez, and Arturo de la Escalera. "Vision-Based Advanced Driver Assistance Systems", In *Computer Vision in Vehicle Technology: Land, Sea, and Air*, 2017.
3. German Ros, Laura Sellart, Gabriel Villalonga, Elias Moidanik, Francisco Molero, Marc Garcia, Adriana Cedeño, Francisco Perez, Didier Ramirez, Eduardo Escobar et al. "Semantic Segmentation of Urban Scenes via Domain Adaptation of SYNTHIA", In *Domain Adaptation in Computer Vision Applications*, edited by Gabriela Csurka, 227–241. Vol. 12. Springer, 2017.
4. H. Martin, Jens Fagertun, Sergio Vera, and Debora Gil. "Medial structure generation for registration of anatomical structures", In *Skeletonization, Theory, Methods and Applications*, Vol. 11, 2017.
5. Hana Jarraya, Muhammad Muzzamil Luqman, and Jean-Yves Ramel. "Improving Fuzzy Multilevel Graph Embedding Technique by Employing Topological Node Features: An Application to Graphics Recognition", In *Graphics Recognition. Current Trends and Challenges*, edited by B. Lamiroy and R Dueire Lins. Vol. 9657. LNCS. Springer, 2017.

6. Hans Stadthagen-Gonzalez, Luis Lopez, M. Carmen Parafita, and C. Alejandro Parraga. "Using two-alternative forced choice tasks and Thurstone's law of comparative judgments for code-switching research", In *Linguistic Approaches to Bilingualism*, 2017.
7. Lluís Pere de las Heras, Oriol Ramos Terrades, and Josep Lladós. "Ontology-Based Understanding of Architectural Drawings", In *Graphic Recognition. Current Trends and Challenges*, 75–85. Vol. 9657. LNCS, 2017.
8. Marçal Rusiñol and Josep Lladós. "Flowchart Recognition in Patent Information Retrieval", In *Current Challenges in Patent Information Retrieval*, edited by M. Lupu, K. Mayer, N. Kando and A.J. Trippe, 351–368. Vol. 37. Springer Berlin Heidelberg, 2017.
9. Maryam Asadi-Aghbolaghi, Albert Clapes, Marco Bellantonio, Hugo Jair Escalante, Victor Ponce, Xavier Baro, Isabelle Guyon, Shohreh Kasaei, and Sergio Escalera. "Deep Learning for Action and Gesture Recognition in Image Sequences: A Survey", In *Gesture Recognition*, 539–578, 2017.
10. Pau Riba, Alicia Fornes, and Josep Lladós. "Towards the Alignment of Handwritten Music Scores", In *Graphics Recognition. Current Trends and Challenges*, edited by Bart Lamiroy and R. Dueire Lins, 103–116. Vol. 9657. LNCS, 2017.
11. Sergio Escalera, Vassilis Athitsos, and Isabelle Guyon. "Challenges in Multi-modal Gesture Recognition", In *Gesture Recognition*, 1-60, 2017.

### 10.3 Journals with Impact Factor (50)

1. 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* 47, no. 11 (2017): 3980–3990.
2. Antonio Lopez, Gabriel Villalonga, Laura Sellart, German Ros, David Vazquez, Jiaolong Xu, Javier Marin, and Azadeh S. Mozafari. "Training my car to see using virtual worlds", *Image and Vision Computing* 38 (2017): 102–118.
3. Arash Akbarinia and C. Alejandro Parraga. "Colour Constancy Beyond the Classical Receptive Field", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, no. 99 (2017).
4. Arash Akbarinia and C. Alejandro Parraga. "Feedback and Surround Modulated Boundary Detection", *International Journal of Computer Vision* (2017).
5. Arash Akbarinia and Karl R. Gegenfurtner. "Metameric Mismatching in Natural and Artificial Reflectances", *Journal of Vision* 17, no. 10 (2017): 390.
6. C. Alejandro Parraga. "Colours and Colour Vision: An Introductory Survey", *Perception* 46, no. 5 (2017): 640–641.

7. Cristhian A. Aguilera-Carrasco, Angel Sappa, Cristhian Aguilera, and Ricardo Toledo. "Local Descriptors via Quadruplet Network", *Sensors* 17, no. 4 (2017): 873.
8. 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* 122, no. 2 (2017): 212–227.
9. David Vazquez, Jorge Bernal, F. Javier Sanchez, Gloria Fernandez-Esparrach, Antonio Lopez, Adriana Romero, Michal Drozdal, and Aaron Courville. "A Benchmark for Endoluminal Scene Segmentation of Colonoscopy Images", *Journal of Healthcare Engineering* (2017).
10. Debora Gil, Rosa Maria Ortiz, Carles Sanchez, and Antoni Rosell. "Objective endoscopic measurements of central airway stenosis. A pilot study", *Respiration* 95 (2017): 63–69.
11. 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* 35 (2017): 390–402.
12. Dena Bazazian, Raul Gomez, Angelos Nicolaou, Lluís Gomez, Dimosthenis Karatzas, and Andrew Bagdanov. "FAST: Facilitated and Accurate Scene Text Proposals through FCN Guided Pruning", *Pattern Recognition Letters* (2017).
13. F. Javier Sanchez, Jorge Bernal, Cristina Sanchez-Montes, Cristina Rodriguez de Miguel, and Gloria Fernandez-Esparrach. "Bright spot regions segmentation and classification for specular highlights detection in colonoscopy videos", *Journal of Machine Vision and Applications* (2017): 1–20.
14. Fatemeh Noroozi, Marina Marjanovic, Angelina Njegus, Sergio Escalera, and Gholamreza Anbarjafari. "Audio-Visual Emotion Recognition in Video Clips", *IEEE Transactions on Affective Computing* (2017).
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* 36, no. 2 (2017): 72–77.
16. Gabriel Oliver, Nuno Gracias, and Antonio Lopez. "Special Issue "Vision-Based Sensors in Field Robotics", *Sensors* (2017).
17. Hans Stadthagen-Gonzalez, M. Carmen Parafita, C. Alejandro Parraga, and Markus F. Damian. "Testing alternative theoretical accounts of code-switching: Insights from comparative judgments of adjective-noun order", *International Journal of Bilingualism* (2017).
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* 28, no. 5 (2017): 925–939.

19. Ivet Rafegas, Javier Vazquez, Robert Benavente, Maria Vanrell, and Susana Alvarez. "Enhancing spatio-chromatic representation with more-than-three color coding for image description", *Journal of the Optical Society of America A* 34, no. 5 (2017): 827–837.
20. J.P. Jacob, Mariella Dimiccoli, and L. Moisan. "Active skeleton for bacteria modelling", *Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization* 5, no. 4 (2017): 274–286.
21. Joan Serrat, Felipe Lumbreras, Francisco Blanco, Manuel Valiente, and Montserrat Lopez-Mesas. "myStone: A system for automatic kidney stone classification", *Expert Systems with Applications* 89 (2017): 41–51.
22. Jorge Bernal, Nima Tajkbaksh, F. Javier Sanchez, Bogdan J. Matuszewski, Hao Chen, Lequan Yu, Quentin Angermann, Olivier Romain, Bjorn Rustad, Ilangko Balasingham et al. "Comparative Validation of Polyp Detection Methods in Video Colonoscopy: Results from the MICCAI 2015 Endoscopic Vision Challenge", *IEEE Transactions on Medical Imaging* 36, no. 6 (2017): 1231–1249.
23. 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* 28, no. 5 (2017): 853–854.
24. Karim Lekadir, Alfiia Galimzianova, Angels Betriu, Maria del Mar Vila, Laura Igual, Daniel L. Rubin, Elvira Fernandez-Giraldez, Petia Radeva, and Sandy Napel. "A Convolutional Neural Network for Automatic Characterization of Plaque Composition in Carotid Ultrasound", *IEEE Journal Biomedical and Health Informatics* 21, no. 1 (2017): 48–55.
25. Katerine Diaz, Jesus Martinez del Rincon, and Aura Hernandez-Sabate. "Decremental generalized discriminative common vectors applied to images classification", *Knowledge-Based Systems* 131 (2017): 46–57.
26. Katerine Diaz, Jesus Martinez del Rincon, Aura Hernandez-Sabate, Marçal Rusiñol, and Francesc J. Ferri. "Fast Kernel Generalized Discriminative Common Vectors for Feature Extraction", *Journal of Mathematical Imaging and Vision* (2017): 1–13.
27. Katerine Diaz, Konstantia Georgouli, Anastasios Koidis, and Jesus Martinez del Rincon. "Incremental model learning for spectroscopy-based food analysis", *Chemometrics and Intelligent Laboratory Systems* 167 (2017): 123–131.
28. Lluís Gomez and Dimosthenis Karatzas. "TextProposals: a Text-specific Selective Search Algorithm for Word Spotting in the Wild", *Pattern Recognition* 70 (2017): 60–74.
29. Lluís Gomez, Angelos Nicolaou, and Dimosthenis Karatzas. "Improving patch-based scene text script identification with ensembles of conjoined networks", *Pattern Recognition* 67 (2017): 85–96.

30. Luis Herranz, Shuqiang Jiang, and Ruihan Xu. "Modeling Restaurant Context for Food Recognition", *IEEE Transactions on Multimedia* 19, no. 2 (2017): 430–440.
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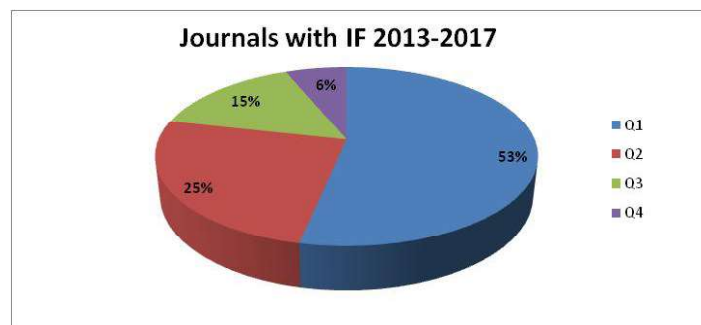
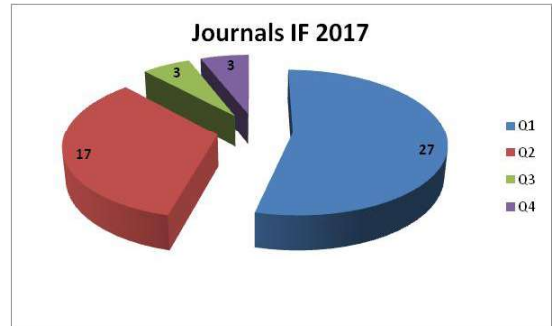
92. Xavier Soria, Angel Sappa, and Arash Akbarinia. "Multispectral Single-Sensor RGB-NIR Imaging: New Challenges and Opportunities", In *7th International Conference on Image Processing Theory, Tools & Applications*, 2017.
93. Xialei Liu, Joost van de Weijer, and Andrew Bagdanov. "RankIQA: Learning from Rankings for No-reference Image Quality Assessment", In *17th IEEE International Conference on Computer Vision*, 2017.
94. Xinhang Song, Luis Herranz, and Shuqiang Jiang. "Depth CNNs for RGB-D Scene Recognition: Learning from Scratch Better than Transferring from RGB-CNNs", In *31st AAAI Conference on Artificial Intelligence*, 2017.
95. Xinhang Song, Shuqiang Jiang, and Luis Herranz. "Combining Models from Multiple Sources for RGB-D Scene Recognition", In *26th International Joint Conference on Artificial Intelligence*, 4523–4529, 2017.
96. Yagmur Gucluturk, Umut Guclu, Marc Perez, Hugo Jair Escalante, Xavier Baro, Isabelle Guyon, Carlos Andujar, Julio C.S. Jacques Junior, Meysam Madadi, and Sergio Escalera. "Visualizing Apparent Personality Analysis with Deep Residual Networks", In *Chalearn Workshop on Action, Gesture, and Emotion Recognition: Large Scale Multimodal Gesture Recognition and Real versus Fake expressed emotions at ICCV*, 3101–3109, 2017.

### 10.6 Miscellanea (3)

1. Fernando Vilariño. "Bringing and keeping all the stakeholders together: creating a catalog of models of governance for innovation", *Open Living Lab Days Report* 2017.
2. Meysam Madadi, Sergio Escalera, Xavier Baro, and Jordi Gonzalez. "End-to-end Global to Local CNN Learning for Hand Pose Recovery in Depth data", *arXiv* 2017.
3. Umut Guclu, Yagmur Gucluturk, Meysam Madadi, Sergio Escalera, Xavier Baro, Jordi Gonzalez, Rob van Lier, and Marcel A. J. van Gerven. "End-to-end semantic face segmentation with conditional random fields as convolutional, recurrent and adversarial networks", *arXiv* (2017).

Fact Sheet - Publications

Publications 2017	Number
IF Journals	50
Journals	4
International Conferences	96
Books	6
Books Chapters	11
Miscellanea	3



## 10. Organization of Conferences, Workshops and other research and dissemination activities

*ICLR Workshop and Hackaton on video forecasting*, in conjunction with Marseille ML Meetup Scientific Board - Organizers: **Xavier Baró, Sergio Escalera**

Co-Organizer and Coach: **Julio Jacques Jr.**

Place: Carqueiranne (France)

Date: April 22, 2017

<http://project.see4c.eu/workshop/13/description/>

*Special Session on Machine Learning Methods applied to Vision and Robotics (MLMVR)*, in International Joint Conference on Neural Networks

Co-Organizer: **Sergio Escalera**

Place: Anchorage, Alaska (USA)

Date: May 14-18, 2017

<https://www.dtic.ua.es/~jgarcia/IJCNN2017/>

*ChaLearn Job Candidate Screening Competition*, in International Joint Conference on Neural Networks (IJCNN 2017)

Co-Organizers: **Sergio Escalera, Xavier Baró, Julio Jacques Jr, Meysam Madadi**

Place: Anchorage, Alaska (USA)

Date: May 14-19, 2017

<http://chalearnlap.cvc.uab.es/challenge/23/description/>

*2th IEEE International Conference on Automatic Face and Gesture Recognition (FG 2017)*

Challenge Chair: **Sergio Escalera**

Area Co-Chair (Gesture Recognition Analysis and Synthesis): Sergio Escalera (UB-CVC)

Place: Washington DC (USA)

Date: May 30 – June 3, 2017

<http://www.fg2017.org/index.php/conference-2>

*First International Workshop on Adaptive Shot Learning for Gesture Understanding and Production*, held in conjunction with IEEE FG 2017

Co-Organizer: **Sergio Escalera**

Place: Washington DC (USA)

Date: May 30, 2017

<https://engineering.purdue.edu/ASLAGUP/index.html>

*SIFED-TALADOC: Symposium International Francophone sur l'Écrit et le Document*

Organizing Committee: **Oriol Ramos**

Place: Tours (France)

Date: June 1-2, 2017

<http://grce.labri.fr/taladoc-sifed/index.html>

*IEEE 3D True Vision v2: Research and Applications in Future 3D Media*

Workshop/Tutorial/Special Session Co-chair: **Angel Sappa**

Place: Copenhagen (Denmark)

Date: June 7-9, 2017

<http://u-pat.org/ICDAR2017/index.html>

*ChaLearn Job Candidate Screening Competition*, in Computer Vision and Pattern Recognition (2017 CVPR)

Co-Organizers: **Sergio Escalera, Xavier Baró, Julio Jacques Jr, Meysam Madadi**

Place: Honolulu, Hawaii (USA)

Date: July 21-26 2017

<http://chalearnlap.cvc.uab.es/challenge/23/description/>

*4<sup>th</sup> Temporal Deep Learning Workshop (TDL 2017)*, in Computer Vision and Pattern Recognition (2017 CVPR)

Co-Organizer: **Sergio Escalera**

Place: Honolulu, Hawaii (USA)

Date: July 26 2017

<http://wikicfp.com/cfp/servlet/event.showcfp?eventid=61431&copyownerid=53578>

*14th IEEE International Conference on Advanced Video and Signal based Surveillance (AVSS 2017)*

Area Co-Chair Processing, Detection, Tracking and Recognition: **Sergio Escalera**

Place: Lecce (Italy)

Date: August 29 – September 1, 2017

<http://www.avss2017.org/>

*Gastrointestinal Image ANALysis sub-challenge part of EndoVis challenge at MICCAI 2017*

Sub-Challenge Co-Chair: **Jorge Bernal**

Place: Quebec (Canada)

Date: September 10, 2017

<https://endovissub2017-giana.grand-challenge.org/home/>

*First International Workshop on Social Signal Processing and Beyond (SSP and BE 2017)*, in conjunction with 19th International Conference on Image Analysis and Patterns (ICIAP 2017)

Co-Organizers: **Mariella Dimiccoli, Petia Radeva**

Place: Catania (Italy)

Date: September 11, 2017

<http://www.ub.edu/cvub/SSPandBE/index.html>

*CIC 25th Twenty-fifth Color and Imaging Conference*

Workshop Co-Chair: **Maria Vanrell**

Place: Lillehammer (Norway)

Date: September 11-15, 2017

[http://www.imaging.org/site/IST/Conferences/Color\\_and\\_Imaging/CIC25\\_\\_2017\\_/IST/Conferences/CIC/CIC2017/CIC\\_Home.aspx?hkey=3d67aa6e-d732-49e2-950e-8638b7fe126b](http://www.imaging.org/site/IST/Conferences/Color_and_Imaging/CIC25__2017_/IST/Conferences/CIC/CIC2017/CIC_Home.aspx?hkey=3d67aa6e-d732-49e2-950e-8638b7fe126b)

*PMC 2017 – Pacific-Rim Conference on Multimedia*

Publicity Co-Chair: **Luis Herranz**

Date: September 28-29, 2017

Place: Harbin (China)

<http://www.wikicfp.com/cfp/servlet/event.showcfp?eventid=63569>

*International Conference on Computer Vision (ICCV 2017)*

Area Co-Chairs: **Sergio Escalera, Joost van de Weijer**

Date: October 22-29, 2017

Place: Venice (Italy)

<http://iccv2017.thecvf.com/>

*2nd International Workshop on Lifelogging Tools and Applications (LTA)*, in conjunction with ACM Multimedia Conference

Co-Organizers: **Mariella Dimiccoli, Petia Radeva**

Place: San Francisco (USA)

Date: October 23, 2017

<http://lta2017.computing.dcu.ie/>

*Chalearn Workshop on Action, Gesture, and Emotion Recognition: Large Scale Multimodal Gesture Recognition and Real versus Fake expressed emotions (Chalearn Looking at People Workshop 2017)*, in ICCV 2017

Co-Organizers: **Sergio Escalera, Xavier Baró, Meysam Madadi**

Date: October 29, 2017

Place: Venice (Italy)

<http://chalearnlap.cvc.uab.es/workshop/24/description/#>

*14th IAPR International Conference on Document Analysis and Recognition (ICDAR 2017)*

Program Committee Co-Chair: **Dimosthenis Karatzas**

Tutorial Co-Chair: **Josep Lladós**

Area Co-Chairs: **Alicia Fornés, Lluís Gómez**

Place: Kyoto (Japan)

Date: November 13-15, 2017

[http://u-pat.org/ICDAR2017/info\\_people.php](http://u-pat.org/ICDAR2017/info_people.php)

*12th IAPR International Workshop on Graphics Recognition (GREC 2016)*

General Workshop Co-Chair: **Alicia Fornés**

Place: Kyoto (Japan)

Date: November 9-10, 2017

<http://grec2017.loria.fr/>

*7th International Workshop on Camera-Based Document Analysis and Recognition CBDAR*, in conjunction with ICDAR 2017

Co-Organizers: **Lluís Gómez, Dimosthenis Karatzas**

Place: Kyoto (Japan)

Date: November 11, 2017

<http://www.cvc.uab.es/cbdar2017/?c=home>

*1st International Workshop on Human-Document Interaction (HDI)*, in conjunction with ICDAR 2017

Co-Organizer: **Dimosthenis Karatzas**

Place: Kyoto (Japan)

Date: November 21, 2017

<http://www.cvc.uab.es/hdi2017/?c=home>

*Autonomous Driving and Driver Assistance Systems (Special Session), ROBOT'17 Third Iberian Robotics Conference*

Special Session Chair: **Angel Sappa**

Place: Sevilla

Date: November 22-24, 2017

<https://grvc.us.es/robot2017/>

*Neural Information Processing Systems (NIPS 2017)*

Demonstration and Competition Co-Chair: **Sergio Escalera**

Place: Long Beach (USA)

Date: December 4-9, 2017

<https://nips.cc/Conferences/2017>

*Machine Learning Challenges as a Research Tool Workshop (CML 2017)*, in conjunction with NIPS 2017

Organizer Co-Chair: **Sergio Escalera**

Place: Long Beach (USA)

Date: December 9, 2017

<http://ciml.chalearn.org/ciml2017>

## 11. Awards

*Google Research Award 2016*, **Dimosthenis Karatzas** and Andrew D. Bagdanov (Univ. di Firenze), for the project “Beyond Word spotting: visual context in support of open vocabulary scene text recognition”

*Honorable mention*, video “APODEC: Automatic Polyp Detection in Colonoscopy” at Digestive Disease Week in 2017, Chicago (May 2017)

*Best student Paper Award*, **Julio Cezar Jacques Junior, Xavier Baro, Sergio Escalera** for the paper “Exploiting feature representations through similarity learning and ranking aggregation for person re-identification”, 12<sup>th</sup> IEEE International Conference on Automatic Face and Gesture Recognition (FG 2017), Washington DC, May 30 –June 3, 2017

*Honorable Mention Award*, Eirikur Agustsson, Radu Timofte, **Sergio Escalera, Xavier Baro**, Isabelle Guyon and Rasmus Rothe for the paper “Apparent and real age estimation in still images with deep residual regressors on APPA-REAL database”, 12<sup>th</sup> IEEE International Conference on Automatic Face and Gesture Recognition (FG 2017), Washington DC, May 30 – June 3, 2017

*Best Paper award IbPRIA 2017*, A. Cartas, J. Marin, **P. Radeva** and **M. Dimiccoli** for the paper “Recognizing activities of daily living from egocentric images” 8th Iberian Conference on Pattern Recognition and Image Analysis (IbPRIA 2017), Faro (Portual), June 2017

*Best Industrial Paper Award*, **D. Hernandez-Juarez**, L. Schneider, A. Espinosa, **D. Vázquez, A. M. López**, U. Franke, M. Pollefeys, & J. C. Moure, for “Slanted Stixels: Representing San Francisco’s Steepest Streets”, BMVC British Machine Vision Conference 2017, London (UK), September 4-7, 2017

*Winners of the Multimodal Machine Translation Task 2017*, **Marc Masana, Luis Herranz** and **Joost van de Weijer** for “LIUM-CVC Submissions for WMT17 Multimodal Translation Task” (joint submission with the University of Lemans), in Second Conference on Machine Translation (WMT17), Copenhagen (Denmark), September 7-8, 2017

*Young Investigator Award IAPR/ICDAR*, **Dr. Alicia Fornés** in the 14th IAPR International Conference on Document Analysis and Recognition (ICDAR 2017), Kyoto (Japan), November 12-15, 2017

*Best Poster award ICDAR 2017*, E. Royer, J. Chazalon, **M. Rusiñol** and F. Bouchara for “Benchmarking Keypoint Filtering Approaches for Document Image Matching”, 14th IAPR International Conference on Document Analysis and Recognition 2017, Kyoto (Japan), November 13-15, 2017



## 12. Editorship

- **Dr. Dimosthenis Karatzas**, Editorial Board Member, *IPSJ Transactions on Computer vision and Applications*, (2015 – Present)
- **Dr. Jordi González**, Associate editor of *IET Computer Vision*
- **Dr. Jordi González**, Area Editor of *Computer Vision and Image Understanding*
- **Dr. Xavier Otazu**, Editor of the Research Topic “Integrating Visual System Mechanisms, Computational Models and Algorithms/Technologies”, *Frontiers publisher of Frontiers in Neuroscience, Frontiers in Computational Neuroscience, Frontiers in Bioengineering and Biotechnology*
- **Dr. V. Santos, Dr. Angel Sappa** and **Dr. M. Oliveira**, Guest Editors Special Issue Autonomous Driving and Driver Assistance Systems, *Robotics and Autonomous Systems*, May 2017
- **Dr. Joost van de Weijer**, Associate Editor of *Computer Vision and Image Understanding*, 2016-219
- **Dr. Sergio Escalera**, Editor of the Special Issue on Computational Intelligence for Vision and Robotics, *Neural Computing and Applications*, May 2017, vol. 28(5)
- **Dr. Sergio Escalera**, volume Editor of *Gesture Recognition, Springer Series on Challenges in Machine Learning*, 2017
- **Dr. Sergio Escalera**, Guest Editor Special Issue on Application of Visual Analysis of Human Behaviour, *EURASIP Journal of Image and Video Processing*, 2017
- **Dr. Sergio Escalera**, Guest Editor Special Issue The Computational Face, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2017
- **Dr. Mariella Dimiccoli**, Guest Editor Special Issue on Egocentric Vision and Lifelogging, *Journal of Visual Communication and Image Representation*, 2017
- **Dr. Mariella Dimiccoli**, Editorial Board member of *Frontiers in Perception Science*, speciality of Frontiers in Neuroscience and Frontiers in Psychology
- **Dr. Petia Radeva**, Editorial Board member of *Frontiers in Perception Science*, speciality of Frontiers in Neuroscience and Frontiers in Psychology
- **Dr. Petia Radeva**, Lead Guest Editor Special Issue on Egocentric Vision and Lifelogging, *Journal of Visual Communication and Image Representation*, 2017

## 13. Service to the Community

- **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”, (2017 - present)  
Member of IAPR Education Committee (2016 – present)

- **Dr. Josep Lladós,**  
Chair of the IAPR Education Committee  
Member of the IAPR Liasion Committee (2016-present)
  
- **Dr. Petia Radeva**  
Member of IAPR Fellow Committee (2016-present)  
Member of the Aurora Pons Porrata Awarding Committee 2017  
Vice-chair of FET-OPEN - FETOPEN-01-2018-2019-2020: FET-Open Challenging Current Thinking.
  
- **Dr. Alicia Fornés**  
Vice-chair of TC-10 Steering Committee