



CENTRE DE VISIÓ PER COMPUTADOR

ACTIVITATS DE RECERCA 2010



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## 0. Resum

<b>PERSONAL</b>	<b>91</b>
Doctors	44
Doctorands	47
<b>CONVENIS</b>	<b>2</b>
<b>PROJECTES COMPETITIUS</b>	<b>25</b>
Nous concedits l'any 2010 → 646.155,00€	6
Renovacions → 2.749.305,26€	12
Altres Ajuts Competitius - beques	6
<b>TESIS DOCTORALS</b>	<b>8</b>
<b>TESINES I TESIS DE MÀSTER</b>	<b>17</b>
<b>ESTADES DE RECERCA AL CVC</b>	<b>9</b>
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<b>PATENTS</b>	<b>2</b>
<b>GRUPS DE RECERCA (SGR)</b>	<b>4</b>
<b>PUBLICACIONS</b>	<b>156</b>
Llibres	11
Revistes amb índex d'impacte	38
Altres revistes	1
Capítols de Llibre	20
Congressos Internacionals	60
Congressos Nacionals	13
Tesines i Tesis de Màster	13
<b>ALTRES PUBLICACIONS</b>	<b>45</b>
CVC Internal Workshop	44
Technical Reports	1
<b>PREMIS</b>	<b>3</b>
<b>ALTRES ACTIVITATS DE RECERCA</b>	<b>2</b>



## 1. Personal (91)

A data 31 de desembre de 2010, el personal del CVC que realitza tasques de recerca està format per:

### INVESTIGADORS DOCTORS (44):

- Personal numerari universitari (37), tant a la UAB com a la UB, UPC, URV i UOC.
- Contractes post-doc (7): inclou investigadors I3, Ramón y Cajal i doctors contractats pel CVC.

**DOCTORANDS (47):** inclou qualsevol estudiant de doctorat amb una beca (CVC, UAB, FPI i FI) o contractat com a ajudant a la UAB, UB o la UOC, així com els estudiants de Màster.

## 2. Convenis (2)

**TÍTOL:** Convenio de colaboración entre ALMA IT Systems y el Centre de Visió per Computador para la realización de una tesis doctoral codirigida.

**EMPRESA FINANÇADORA:** Alma IT Systems S.L.

**DURADA:** 2010-2013

**TOTAL CONVENI:** 0€

**INVESTIGADOR RESPONSABLE:** Debora Gil

**TÍTOL:** Sponsored research agreement Xerox-CVC.

**EMPRESA FINANÇADORA:** Xerox

**DURADA:** 2010-2012

**TOTAL CONVENI:** 30.000.00€

**INVESTIGADOR RESPONSABLE:** Ernest Valveny i Josep Lladós

## 3. Projectes Competitius (25)

### 3.1. Nous iniciats l'any 2010 (6)

**TÍTOL:** Introducción de información de color y mecanismos de atención a modelos Bio-inspirados de Visión por Computador

**REFERÈNCIA:** TIN-2010-2177-C02-01

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 2010-2013

**TOTAL CONCEDIT:** 148.830,00€

**INVESTIGADOR RESPONSABLE:** M.Vanrell

**TÍTOL:** Sistemas de asistencia al conductor basados en la monitorización de la carretera usando Visión por Computador.

**REFERÈNCIA:** TRA2010-21371-C03-01

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 2010-2011

**TOTAL CONCEDIT:** 14.520,00€

**INVESTIGADOR RESPONSABLE:** A.López

**TÍTOL:** X-QPA: a Quantitative X-ray-based intraoperative myocardial Re-perfusion Computer-assisted Analysis / Diagnosis Tool.

**REFERÈNCIA:** 2010 VALOR 00158

**EMPRESA FINANÇADORA:** Agència de Gestió d'Ajuts Universitaris i de Recerca

**DURADA:** 2011-2013

**TOTAL CONCEDIT:** 76.005,00€

**INVESTIGADOR RESPONSABLE:** C. Gatta

**TÍTOL:** 3D Real-time modeling on a distributed platform.

**REFERÈNCIA:** TIN2010-10163-E

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 2010-2011

**TOTAL CONCEDIT:** 2.000,00€

**INVESTIGADOR RESPONSABLE:** A.Sappa

**TÍTOL:** Modelo de arterias coronarias adaptado al paciente y predicción de la formación y crecimiento.

**REFERÈNCIA:** AIB2010SE-00210

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 2011-2012

**TOTAL CONCEDIT:** 8.000,00€

**INVESTIGADOR RESPONSABLE:** S.Balocco

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

**REFERÈNCIA:** Project Number 269796

**EMPRESA FINANÇADORA:** Unió Europea

**DURADA:** 2011-2015

**TOTAL CONCEDIT:** 396.800,00€

**INVESTIGADOR RESPONSABLE:** J.Lladós

### 3.2. Renovacions (12)

**TÍTOL:** Extracción de conocimiento de imágenes de documentos con contenidos heterogéneos.

**REFERÈNCIA:** TIN-2009-14633-C03-03

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 2010-2012

**TOTAL CONCEDIT:** 195.400,00€

**INVESTIGADOR RESPONSABLE:** J. Lladós

**TÍTOL:** Tècniques de aprendizaje para sistemas de visión a gran escala: aplicaciones al reconocimiento de objetos.

**REFERÈNCIA:** TIN2009-14404-C02-01

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 2010-2012

**TOTAL CONCEDIT:** 136.600,00€

**INVESTIGADOR RESPONSABLE:** J. Vitrià



**TÍTOL:** Tècniques de aprendizaje para sistemas de visión a gran escala: aplicaciones al analisis (COORDINADA con la de J.Vitrià)

**REFERÈNCIA:** TIN2009-14404-C02-02

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 2010-2012

**TOTAL CONCEDIT:** 112.200,00€

**INVESTIGADOR RESPONSABLE:** P. Radeva

**TÍTOL:** Comprensión holística de imágenes en color: combinación de percepción "bottom-up" y semántica "top-D"

**REFERÈNCIA:** TIN2009-14173

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 2010-2012

**TOTAL CONCEDIT:** 65.000,00€

**INVESTIGADOR RESPONSABLE:** J. Van de Weijer

**TÍTOL:** Detección en tiempo real de cáncer de colón para la evaluación de calidad de las colonoscopias.

**REFERÈNCIA:** TIN2009-10435

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 2010-2012

**TOTAL CONCEDIT:** 68.100,00€

**INVESTIGADOR RESPONSABLE:** F. Vilariño

**TÍTOL:** Razonamiento epistemológico para la interpretación del contexto y de eventos de seguridad para la vigilancia.

**REFERÈNCIA:** TIN2009-14501-C02-01

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 2010-2012

**TOTAL CONCEDIT:** 190.100,00€

**INVESTIGADOR RESPONSABLE:** X. Roca

**TÍTOL:** Razonamiento epistemológico para la interpretación del contexto y de eventos de seguridad para la vigilancia. (COORDINADA con X.Roca)

**REFERÈNCIA:** TIN2009-14501-C02-02

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 2010-2012

**TOTAL CONCEDIT:** 83.400,00€

**INVESTIGADOR RESPONSABLE:** J. González

**TÍTOL:** Miocardia: Definición de un modelo integrado de la funcionalidad y anatomía muscular del ventrículo.

**REFERÈNCIA:** TIN2009-13618

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 2010-2012

**TOTAL CONCEDIT:** 123.800,00€

**INVESTIGADOR RESPONSABLE:** D.Gil

**TÍTOL:** Projectes de recerca sobre les malalties cardiovasculars – La Marató.

**REFERÈNCIA:** 082131

**EMPRESA FINANÇADORA:** Fundació La Marató TV3

**DURADA:** 2010-2011

**TOTAL CONCEDIT:** 114.680,00€

**INVESTIGADOR RESPONSABLE:** P.Radeva

**TÍTOL:** Convenio de colaboración para la creación de un equipo de investigación en materia de reconocimiento de formas y visión artificial.

**REFERÈNCIA:** CSD2007-00018

**EMPRESA FINANÇADORA:** Ministerio Educación y Ciencia (CONSOLIDER INGENIO)

**DURADA:** 01/10/2007 – 30/09/2012

**TOTAL CONCEDIT:** 1.252.800,00€

**INVESTIGADOR RESPONSABLE:** J.J.Villanueva, J.Vitrià

**TÍTOL:** Sistema experto basado en señales biomédicas (AVANZA I+D).

**REFERÈNCIA:** PIAP-GA-2009-236653

**EMPRESA FINANÇADORA:** Ministerio de Industria, Turismo y Comercio

**DURADA:** 2008-2011

**TOTAL CONCEDIT:** 222.964,00€

**INVESTIGADOR RESPONSABLE:** J.Vitrià

**TÍTOL:** Aministrative document automate optimization.

**REFERÈNCIA:** PIAP-GA-2009-236653

**EMPRESA FINANÇADORA:** Marie Curie

**DURADA:** 2009-2011

**TOTAL CONCEDIT:** 184.261,26€

**INVESTIGADOR RESPONSABLE:** J.Lladós

### 3.3. Altres Ajuts Competitius - beques (6)

**TÍTOL:** Modalitat B: Ajut de mobilitat de personal investigador (AIRE-CTP), de la convocatòria d'ajuts per a accions de cooperació en el marc de la Comunitat de Treball dels Pirineus (CTP) 2010.

**REFERÈNCIA:** 2010 CTP 00009

**EMPRESA FINANÇADORA:** Agència de Gestió d'Ajuts Universitaris i de Recerca

**DURADA:** 01/02/2011 – 01/07/2011

**TOTAL CONCEDIT:** 12.442,00€

**BENEFICIARI / INVESTIGADOR RESPONSABLE:** D. Gerónimo / A.López

**TÍTOL:** Beca per a estades de recerca fora de Catalunya (BE-DGR), de la convocatòria per a la concessió de beques i ajuts en matèria de recerca per a l'any 2010.

**REFERÈNCIA:** 2010 BE 00302

**EMPRESA FINANÇADORA:** Agència de Gestió d'Ajuts Universitaris i de Recerca

**DURADA:** 04/04/2011 – 04/08/2011

**TOTAL CONCEDIT:** 5.163,00€

**BENEFICIARI / INVESTIGADOR RESPONSABLE:** M. Al Haj / J.González

**TÍTOL:** Beca per a estades de recerca fora de Catalunya (BE-DGR), de la convocatòria per a la concessió de beques i ajuts en matèria de recerca per a l'any 2010.

**REFERÈNCIA:** 2010 BE1 00564

**EMPRESA FINANÇADORA:** Agència de Gestió d'Ajuts Universitaris i de Recerca

**DURADA:** 16/09/2010 – 16/12/2010

**TOTAL CONCEDIT:** 3.597,00€

**BENEFICIARI / INVESTIGADOR RESPONSABLE:** B.ChaKraborty /J.González

**TÍTOL:** Beca de recerca per a professors/es i investigadors/es visitants a Catalunya PIV 2010, de la convocatòria per a la concessió de beques i ajuts en matèria de recerca per a l'any 2010.

**REFERÈNCIA:** 2010 PIV 00071

**EMPRESA FINANÇADORA:** Agència de Gestió d'Ajuts Universitaris i de Recerca

**DURADA:** 15/09/2011 – 15/12/2011

**TOTAL CONCEDIT:** 4.930,00€

**BENEFICIARI / INVESTIGADOR RESPONSABLE:** S.Wuerger /J.Lladós

**TÍTOL:** Beca per a la Formació de Personal Investigador del MICINN, de la convocatòria de 2010 d'ajuts del Programa Nacional de Formació de Recursos Humans d'Investigació.

**REFERÈNCIA:** BES 2010 041301

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 01/12/2010 – 01/12/2013

**TOTAL CONCEDIT:** 60.252,00€ (total 4 anys)

**BENEFICIARI /INVESTIGADOR RESPONSABLE:** E.Zaytseva / J.Vitrià

**TÍTOL:** Beca per a la Formació de Personal Investigador del MICINN, de la convocatòria de 2010 d'ajuts del Programa Nacional de Formació de Recursos Humans d'Investigació.

**REFERÈNCIA:** BES 2010 031102

**EMPRESA FINANÇADORA:** Ministerio de Ciencia e Innovación

**DURADA:** 01/09/2010 – 01/09/2013

**TOTAL CONCEDIT:** 60.252,00€ (total 4 anys)

**BENEFICIARI /INVESTIGADOR RESPONSABLE:** P.Marquez / D.Gil

#### 4. Tesis Doctorals (8)

- **David Gerónimo**, A Global Approach to Vision-based Pedestrian Detection for Advanced Driver Assistance Systems, **CVC-UAB**, febrer 2010.
- **Joan Mas**, A Syntactic Pattern Recognition Approach based on a Distribution Tolerant Adjacency Gramma and a Spatial Indexed Parser. Application to Sketched Document Recognition, **CVC-UAB**, juny 2010.
- **Carles Fernández**, Understanding Image Sequences: the Role of Ontologies in Cognitive Vision, **CVC-UAB**, juliol 2010.
- **Iván Huerta**, Foreground Object Segmentation and Shadow Detection for Video Sequences in Uncontrolled Environments, **CVC-UAB**, juliol 2010.
- **Ignasi Rius**, Motion Priors for Efficient Bayesian Tracking in Human Sequence Evaluation, **CVC-UAB**, juliol 2010.
- **Susana Álvarez**, Texton Theory Revisited. A computational colour approach, **CVC-Universitat Rovira i Virgili**, juliol 2010.
- **José Manuel Álvarez**, Combining Context and Appearance for Road Detection, **CVC-UAB**, octubre 2010.
- **Partha Pratim Roy**, Multi-Oriented and Multi-Scaled Text Character Analysis and Recognition in Graphical Documents and their Applications to Document Image Retrieval, **CVC-UAB**, novembre 2010.

## 5. Tesines i Treballs de Màster (17)

- **Marc Serra Vidal**, Estimating intrinsic images from physical and categorical color cues, **CVC-UAB**, juliol 2010.
- **Ahmed Mounir Gad**, Use of multiple segmentations for a better segmentation and an enhanced localization, **CVC-UAB**, juliol 2010.
- Cristian Olivares, Towards invariance in a perceptual texture descriptor, **UAB**, juliol 2010.
- **Sergio Vera**, Finger joint modelling in hand X-ray images for assessing rheumatoid arthritis, **UAB**, juliol 2010.
- **Antonio Hernández Vela**, Spatio-temporal grabcut human segmentation for face and pose recoverys, **CVC-UAB**, juliol 2010.
- **Nataliya Shapovalova**, On Importance of Interaction and Context in Scene Understanding, **CVC-UAB**, setembre 2010.
- Arturo Ribes, Effective Object Localization with Regularized Codebook Construction, **UAB**, setembre 2010.
- **Zhanwu Xiong**, A POMDP Model for Active Camera Control, **CVC-UAB**, setembre 2010.
- **Patricia Márquez**, Discontinuity-Preserving Optical Flow (Corner-Phase Flow), **CVC-UAB**, setembre 2010.
- **Lluís Pérez de las Heras**, Schotastic Model for Semantic Document Analysis, **CVC-UAB**, setembre 2010.
- Xènia Albà, Automatic Myocardium Segmentation in Late-Enhancement MRI, **UAB**, setembre 2010.
- **Jon Almazán**, Deforming the Blured Shape Model for Shape Description and Recognition, **CVC-UAB**, setembre 2010.
- Diana Raluca, Segmentation of Mice Heart in MRI Non-Gated Sequences, **UAB**, setembre 2010.
- **Anjan Dutta**, Symbol Spotting in Graphical Documents by Serialized Subgraph Matching, **CVC-UAB**, setembre 2010.
- **Ekain Artola**, Human Attention Map Prediction Combining Visual Features, **CVC-UAB**, setembre 2010.
- **David Fernández**, Handwritten Word Spotting in Old Manuscript Images using Structural Shape Descriptors, **CVC-UAB**, setembre 2010.
- **Mònica Piñol**, Adaptive Vocabulary Tree for Image Classification using Reinforcement Learning, **CVC-UAB**, setembre 2010.

## 6. Estades de Recerca al CVC (9)

- Dr. Dimitris Samaras, Image Analysis Lab, **Stony Brook University**, 5 de juliol al 30 de juliol de 2010.
- Pedro Martins, CISUC, Department of Informatics Engineering, **University of Coimbra, Polo II**, Coimbra (Portugal).

- Dr. Georgios Evangelidis, Visual and Social Media Lab, **Intelligent Analysis and Information Systems Institute**, Bonn (Alemanya), 23-28 agost 2010.
- Farhan Riaz, **Universidade do Porto**, Porto (Portugal), 6 de setembre- 15 de desembre 2010.
- Andreas Dengel, DFKI – **German Institute of Artificial Intelligence**, Kaiserslautern (Alemanya), 22-23 de setembre de 2010.
- Marcus Liwicki, DFKI – **German Institute of Artificial Intelligence**, 22-23 de setembre de 2010.
- Alsessandro Vandini, **Università di Modena e Reggio Emilia** – Ingeneria Informatica- IMAGELAB, 4 de octubre 2010 a 24 de març 2011.
- Miguel Armando Riem de Oliveira, **Universidade de Aveiro**, Portugal, octubre-desembre 2010.
- Xiangfei Kong, Department of Computer Science, City **University of Hong Kong** pre-doctoral stay, 1 de setembre 2010 a 30 de gener 2011.

## 7. Estades de Recerca fora del CVC (12)

- José Manuel Álvarez, **Volkswagen AG**, Alemanya, març-Juny 2010.
- Jordi Roca, Institut de Neurociència, **Universitat de Newcastle**, Newcastle (UK), febrer-maig 2010.
- Jaume Gibert, Institut für Informatik und Angewandte Mathematik, **Universität Bern**, Berna (Suïssa), març-maig 2010.
- Marco Pedersoli, Active Vision Laboratory (AVL), **University of Oxford** (UK), maig-agost 2010.
- Naila Murray, **XEROX Research Centre Europe** (XRCE), Grenoble (França), maig-setembre 2010.
- Albert Gordo, **XEROX Reserach Centre Europe** (XRCE), Grenoble (França), gener-desembre 2010.
- Mural Al Haj, Intelligent Systems Lab Amsterdam - **Amsterdam University** (Països Baixos), juny-setembre 2010.
- Xavier Boix, Computer Vision Lab – **Ecole Polytechnique Fédérale de Lausanne** (Suïssa), agost – novembre 2010.
- Mohammad Rouhani, Geometric Modeling and Insutrial Geometry Group, **Vienna University of Technology**, Viena (Austria), juny-setembre 2010.
- Naveen Onkarappa, Mathematical Image Analysis Group, Faculty of Mathematics and Computer Science - **Saarland University**, Saarbrücken (Alemanya), juliol-setembre 2010.
- Ferran Diego, Dept. of Computer Science, **Technische Universität Darmstadt**, Darmstadt (Alemanya), agost-novembre 2009.
- Bhaskar Chakraborty, **Aalborg University**, octubre-desembre 2010.

## 8. Cursos i Seminaris Impartits (13)

- **Alícia Fornés**, Analysis of historical documents, curs en el Màster de Ingenieria Informatica, *Università degli Studi di Firenze*, 21 al 25 de Octubre 2010.
- **Robert Benavente**, Computational Models for Colour Naming, Seminari, *University of East Anglia*, Norwich (UK), 29/01/2010.
- **Alícia Fornés**, Analysis of historical documents, Curs en el Màster de Ingenieria Informatica, *Università degli Studi di Firenze*, Firenze (Itàlia), octubre 2010.
- **Jordi González**, Video Indexing and Retrieval, Curs en el Master in Multimedia Systems, *Universidad de Granada*, maig 2010.
- **Jordi González**, Video Indexing for Surveillance, Curs en el Postgrau en "Artificial Intelligence: From Perception to Action", *Universitat de Barcelona*, juliol 2010.
- **Josep Lladós**, *Shape-based Information Spotting in Document Analysis*, *Indian Statistical Institute*, Kolkata (Índia), març 2010.
- **Josep Lladós**, *Shape-based Information Spotting in Document Analysis*, *German Research Center for Artificial Intelligence*, Kaiserslautern (Germany), setembre 2010.
- **Josep Lladós**, Aplicaciones prácticas de Visión por Computador. La experiencia del CVC, II Workshop de Reconocimiento de Formas y Análisis de Imágenes (*AERFAI*), setembre 2010.
- **Bogdan Raducanu**, Human Mental Models for Cognitive Development, Invited Speaker, *Microsoft Research Asia (MSR Asia)*, Beijing, R.P. China, 15 de noviembre de 2010.
- **Joost van der Weijer**, Combining color and shape information for image classification, Presentació, *Ecole Normale Superior*, Paris, 2010.
- **Joost van der Weijer**, Bottom-up and top-down color attention for object recognition, Presentació, *Universitat de València*, 2010.
- **Joost van der Weijer**, Applying bottom-up and top-down color attention for improved bag-of-words based object recognition, Presentació, *INRIA*, Grenoble, 2010.
- **Joost van der Weijer**, Photometric invariant color image understanding, Presentació, *Xerox Research Center Europe*, Grenoble, 2010.
- **Joost van der Weijer**, Color in bag-of-words based object recognition, Presentació, Multimedia and Geometry, *Universiteit Utrecht*, 2010.
- **Joost van der Weijer**, Color in Computer vision, Tutorial, *Deutsche Arbeitsgemeinschaft fur Mustererkennung (DAGM 2010)* in Darmstadt,

## 9. Cursos Organitzats al CVC (3)

- **Tecnologías 3D para Aplicaciones Industriales**, Curs 3D amb Infaimon, Lloc **CVC**, 10-11 de març de 2010.
- **How to Write a Competitive Proposal for Framework 7**. Impartit per Dr. Sean McCarthy, Hyperion Ltd. Training Courses. Lloc: **CVC**, 14 de juny de 2010.
- **Introducció a la Visió per Computador**, Curs Joves i Ciència de Caixa Catalunya. Impartit per Dr. Carles Fernández, CVC-UAB. Lloc: **CVC**, 19-30 de juliol de 2010.

## 10. Seminaris al CVC (23)

- Statistical priors for illumination estimation. Ponent: Dimitris Samaras, Image Analysis Group, **Stony Brook University**, Stony Brook, NY (USA), gener 2010.
- Detection for Autonomous Reconnaissance Robots. Ponent: Krystian Mikolajczyk, Center for Vision, Speech and Signal Processing, **University of Surrey** (Regne Unit), febrer 2010.
- Looking at People. Ponent: M. Gavrila, Daimler R&D and **Univ. of Amsterdam** (Holanda), febrer 2010.
- Perceptual and Physiological Effects of Fixational Microsaccades. Ponent: Susana Martínez-Conde, Laboratory of Visual Neuroscience, **Barow Neurological Institute**, Phoenix (AZ, USA), març 2010.
- Closed Form Solutions to Rigid and Non-rigid Detection. Ponent: Dr. Francesc Moreno, **Institut de Robòtica i Informàtica Industrial** –CSIC, (Barcelona, Spain), març 2010.
- Local Invariant Features as Robust Landmarks on Medical Images. Ponent: Dr. Pedro Martins, Centre for Informatics and Systems, **Univ. Coimbra**. Portugal, abril 2010.
- Modulography of Atheroma Plaque and Rupture Prediction, Ponent: Dr. Jacques Ohayon, Laboratory TIMC-DynaCell, UJF, CNRS UMR 5525, In3S, Grenoble, France & Engineering School Polytech Savoie, **University of Savoie**, France, abril 2010.
- Scene Categorisation from Appearance Statistics, Ponent: Dr. Jan-Marik Geusebroek, Informatics Institute, Faculty of Science, **University of Amsterdam** (The Netherlands), maig 2010.
- An Attempt Toward a Universal Resource Repository for Creative Document Analysis Research. Ponent: Dr. Bart Lamiroy, LORIA/INPL – **École des Mines de Nancy** (France), juny 2010.
- Multi-Camera Recognition of People Operating Home Medical Devices. Ponent: Dr. Marcin Detyniecki, **Chargé de Recherche CNRS Laboratoire d'Informatique de Paris 6** – LIP6, Paris (France), juny 2010.
- About faces and 3D Data. Ponent: Dr. Alberto del Bimbo, Media Integration and Communication Center, Dipartimento di Sistemi e Informatica, **Università di Firenze**, Florència (Itàlia), juliol 2010.

- Recognizing Human Actions using Spatio-temporal Interest Points. Ponent: Dr. Marco Bertini, Media Integration and Communication Center, Dipartimento di Sistemi e Informatica, **Università di Firenze**, Florència (Itàlia), juliol 2010.
- Automatic Extraction of Face Contours. Ponent: Dr. Chih-Yu Hsu, Department of Information and Communication Engineering, **Chao Yang University of Technology**, Taiwan, juliol 2010.
- Active Tracking using Line Cameras. Ponent: Helder Araújo, Computer and Robot Vision Lab, **Univ. de Coimbra** (Portugal), juliol 2010.
- Image Retrieval and Recognition with Approximate Nearest Neighbor Search. Ponent: Koichi Kise, Dept. of Computer Science and Intelligent Systems, **Graduate School of Engineering, Osaka** (Japó), setembre 2010.
- The Eye as an Interface between the Brain and the Computer. Ponent: Andreas Dengel, **Technische Universität Kaiserslautern**, Kaiserslautern (Alemanya), setembre 2010.
- Model-based Analysis of 3D Cardiac Ultrasound. Ponent: Johan G. Bosch, Thoraxcenter Biomedical Engineering, **Erasmus MC Rotterdam**, Rotterdam (Holanda), octubre 2010.
- Simple and Efficient Online Algorithms for Real World Applications. Ponent: Francesco Irabona, **Postdoctoral Researcher Università degli Studi di Milano**, Milà (Itàlia), octubre 2010.
- Computer Vision Research Activities in Xerox. Ponent: Marco Bressan, **Xerox Research Centre Europe**, Meylan (França), octubre 2010.
- Robotics, Intelligent Vehicles and ITS: An Overview of Research Activities at ISR-UC. Ponent: Urbano Nunes, Department of Electrical and Computer Engineering (DEEC), Faculty of Sciences and Technology (FCTUC), **University of Coimbra** (Portugal), octubre 2010.
- Applied Visual Aesthetics. Ponent: Luca Marchesotti, XRCE – **Xerox REsearch Centre Europe**, Meylan (França), novembre 2010.
- Facial Behaviour Understanding. Ponent: Maja Pantic, Intelligent Behaviour Group, Imperial College London (Regne Unit) – **University of Twente**, EEMCS (Netherlands), desembre 2010.
- Design of Personality Filters for Socially Aware Computing Systems. Ponent: Maya Dimitrova, **Institute of Systems Engineering and Robotics, Bulgarian Academy of Sciences**, desembre 2010.

## 11. Patents (2)

Títol: METHOD FOR OBTAINING DRIVABLE ROAD AREA

Autors: **José Manuel Álvarez i Felipe Lumbreras**

Número de sol·licitud: PCT/EP2010/058733

Data de sol·licitud: 21 de juny de 2010

Títol: A DEVICE FOR MONITORING CONDITION OF A RAILWAY SUPPLY

Autors: Francesc Tanarro, Pau Gratacós, **Javier Sánchez, Joan Ramon Jiménez, Coen Antens i Enric Sala.**

Número de sol·licitud: 10305756.8-1524

Data de sol·licitud: 7 de juliol de 2010



## 12. Grups de Recerca – SGR (4)

### Grups de Recerca Reconeguts i Finançat

2009 SGR 273

AVALUACIÓ DE SEQÜENCIES D'IMATGES (ASI)

GRC Grup de recerca reconegut i finançat 42.640,00 €

Roca Marvà, Francesc Xavier

CENTRE DE VISIÓ PER COMPUTADOR

2009 SGR 669

CIC: COLOR IN CONTEXT GROUP

GRC Grup de recerca reconegut i finançat 30.000,00 €

Vanrell Martorell, Maria

CENTRE DE VISIÓ PER COMPUTADOR

### Grups de Recerca Reconeguts:

2009 SGR 418

STRING: STRUCTURE, INDEXATION AND GRAPHICAL PATTERNS IN SMART

DOCUMENT IMAGING Lladós GRC Grup de recerca reconegut

Canet, Josep

CENTRE DE VISIÓ PER COMPUTADOR

2009 SGR 71

ADVANCED DRIVER ASSISTANCE SYSTEMS BASED ON COMPUTER VISION (CVC-ADAS)

GRC Grup de recerca reconegu

López Peña, Antonio Manuel

CENTRE DE VISIÓ PER COMPUTADOR

## 13. Publicacions (155)

### 13.1. Llibres (11)

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2. [Fer 2010a] C. Fernández. Understanding Image Sequences: the Role of Ontologies in Cognitive Visión, **PhD Thesis**, ISBN 978-84-937261-2-6, July 2010
3. [FHP 2010] A. Fornés, A. Hernández-Sabaté, D. Ponsa, M. Rusiñol, **Achievements and New Opportunities in Computer Vision. Proceedings of the Fifth CVC Workshop. CVCRD 2010**, Bellaterra (Spain), October,29, 2010.
4. [Ger 2010] D. Gerónimo. A Global Approach to Vision-Based Pedestrian Detection for Advanced Driver Assistance Systems, **Phd Thesis**, ISBN: 978-84-936529-5-1, February 2010.

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6. [Mas 2010] J. Mas. A Syntactic Pattern Recognition Approach based on a Distribution Tolerant Adjacency Grammar and a Spatial Indexed Parser. Application to Sketched Document Recognition, *PhD Thesis*, ISBN 978-84-937261-4-0, June 2010
7. [Oro 2010] J. Orozco. Human Emotion Evaluation on Facial Image Sequences, *PhD Thesis*, ISBN 978-84-936529-3-7. July, 2010
8. [Riu 2010] I. Rius. Motion Priors for Efficient Bayesian Tracking in Human Sequence Evaluation, *PhD Thesis*, ISBN 978-84-937261-9-5. July 2010
9. [Roy 2010] P.P. Roy, Multi-Oriented and Multi-Scaled Text Character Analysis and Recognition in Graphical Documents and their Applications to Document Image Retrieval - *Thesis*. ISBN 978-84-937261-7-1. November 3, 2010.
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11. [Sap 2010] A. Sappa. Computer Graphics and Imaging (*CGIM 2010*) *ACTA Press*, ISBN: 978-0-88986-836-6 February 17-19, 2010.

### 13.2. Revistes amb Índex d'Impacte<sup>1</sup> (38)

1. [AGL 2010c] J.M. Álvarez, T. Gevers, A.M. López. Learning photometric invariance for object detection, *International Journal of Computer Vision*, 90(1), 45-61, 2010. **(IF 2009: 3.508)**. Position 4/103 in the category Computer Science, Artificial Intelligence. Quartile - Octubre 2010
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<sup>1</sup> Impact factor: l'últim disponible JSCI 2009

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### 13.3. Altres Revistes (1)

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## 14.2. Technical Reports (1)

1. **J. Bernal, F. Vilariño, J. Sánchez.** Feature Detectors and Feature Descriptors: Where We Are Now. *CVC Technical Report #154*, setembre 2010.

## 15. Premis (3)

### The Pascal Visual Object Classes Challenge Workshop 2010:

- M. Drozdal, A. Hernández, S. Seguí, X. Baró, S. Escalera, A. Lapedriza, D. Masip, P. Radeva, J. Vitrià. Combining Detectors for Human Layout Analysis. In **11th European Conference on Computer Vision, The Pascal Visual Object Classes Challenge Workshop 2010**, Greece, 2010. Pascal 2 Person layout challenge winner.
- JM. Gonfaus, X. Boix, F. Kahn, J. van de Weijer, A. Bagdanov, M. Pedersoli, J.Serrat, X. Roca, J. Gonzalez. Harmony Potentials: Fusing Global and Local Scale for Semantic Image Segmentation. In **11th European Conference on Computer Vision, The Pascal Visual Object Classes Challenge Workshop 2010**, Greece.
- N. Shapovalova, W. Gong, F.Khan, JM. Gonfaus, M. Pedersoli, A.Bagdanov, J.van de Weijer, J. Gonzalez. CVC\_SEL/CVC\_BASE. In **11th European Conference on Computer Vision, The Pascal Visual Object Classes Challenge Workshop 2010**, Greece.

## Premis extraordinaris de doctorat atorgats per la Comissió de Coordinació dels Estudis de doctorat d'Informàtica del dia 10 de novembre de 2010.

- Curs 2004/05, atorgat a **David Massip Rodó**, per la tesi "Face Classification Using Discriminative Features and Classifier Combination", defensada al setembre 2005.
- Curs 2005/06, atorgada a **Jaume Amores Llopis** "Recognition and Retrieval of Object Categories using Contextual Information", defensada al gener 2006.
- Curs 2006/07, atorgat a **Robert Benavente Vidal**, per la tesi "A Parametric Model for Computational Colour Naming", defensada al juny de 2007.
- Curs 2007/08, atorgat a **Sergio Escalera Guerrero**, per la tesi "Coding and Decoding Design of ECOCs for Multi-Class Pattern and Object Recognition", defensada el juliol de 2008.

## 16. Altres Activitats de Recerca (2)

- Achievements and New Opportunities in Computer Vision. Fifth CVC Workshop CVCRD 2010, CVC (Bellaterra), 29 d'octubre 2010.
- CVC Technical Forum, 26/03/2010, 30/04/2010, 28/05/2010 i 15/10/2010.

## 17. Gràfics

