

Belen Masia

Assistant Professor; Department of Computer Science
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Research Interests

Computational Photography, Computational Displays, and Applied Perception. Including –but not restricted to–: HDRI, virtual reality, stereo and multiview displays, light field editing, scene understanding and (simple/low-cost) light source and material acquisition.

Education

- Sep 2010 – Dec 2013 **Ph.D. in Computer Science and Systems Engineering,**
Universidad de Zaragoza, Spain, Advisor: Prof. Dr. Diego Gutierrez.
- Title: Computational Imaging: Combining Optics, Computation and Perception.
- Graduated *cum laude*.
- 2009 – 2010 **M.Sc. in Computer Science and Systems Engineering,**
Centro Politecnico Superior, Universidad de Zaragoza, Spain.
- M.Sc. Thesis: Reverse Tone Mapping for Suboptimal Exposure Conditions.
- Graduated with honors.
- 2003 – 2009 **B.Sc. and M.Sc. in Industrial Engineering,**
Centro Politecnico Superior, Universidad de Zaragoza, Spain.
- M.Sc. Thesis: Implementation and Analysis of a Relocalization Algorithm for Real-time Monocular SLAM.
- 2nd out of over 200 students in that year.
- Sep 2007 – Mar 2008 **ERASMUS Student at RWTH-Aachen (Maschinenbau),**
Rheinisch-Westfälische Technische Hochschule, Aachen, Germany.
- June 2003 **University Access Exam.**
- Highest grade (9.671/10) in the state (out of 4500 students).

Professional Experience

- Sep 2015 – Present **Assistant Professor; Department of Computer Science,**
Universidad de Zaragoza, Spain.
- Jun 2015 – Sep 2015 **Postdoctoral Researcher at MPI Informatik,**
Max Planck Center for Visual Computing and Communication, Germany.
- Mar 2015 – May 2015 **Visiting Researcher at Max Planck Institute for Informatics,**
Saarbrücken, Germany, Advisor: Prof. Dr. Karol Myszkowski.
- Mar 2014 – May 2015 **Postdoctoral Researcher at the Graphics and Imaging Lab,**
Universidad de Zaragoza, Spain.
- Mar 2014 – May 2014 **Visiting Researcher at Microsoft,**
Lisbon, Portugal, Advisor: Prof. Dr. Miguel Sales Dias.
- Mar 2013 – Jun 2013 **Visiting Researcher at the Camera Culture Group, MIT Media Lab,**
Massachusetts Institute of Technology, USA, Advisor: Prof. Dr. Ramesh Raskar.
- Nov 2012 **Visiting Researcher at the Broadband Network and Digital Media Lab,**
Tsinghua University, Beijing, China, Host: Prof. Dr. Qionghai Dai.

- Aug 2011 – **Visiting Researcher at the Camera Culture Group, MIT Media Lab,**
Dec 2011 *Massachusetts Institute of Technology, USA, Advisor: Prof. Dr. Ramesh Raskar.*
- Mar 2010 – **Predocctoral Researcher at the Graphics and Imaging Lab,**
Dec 2013 *Universidad de Zaragoza, Spain, Advisor: Prof. Dr. Diego Gutierrez.*
- 2009 – 2010 **Undergraduate Researcher at the Advanced Computer Graphics Group,**
Universidad de Zaragoza, Spain, Advisor: Prof. Dr. Diego Gutierrez.
- 2008 – 2009 **Undergraduate Researcher at the Robotics and Vision Group,**
Universidad de Zaragoza, Spain, Advisor: Prof. Dr. Jose M. M. Montiel.

Publications

Note: For the most recent list of publications please refer to my webpage: <http://webdiis.unizar.es/~bmasia/pubs.htm>

Journal Publications

- [1] 2017 **Movie Editing and Cognitive Event Segmentation in Virtual Reality Video**
A Serrano, V Sitzmann, J Ruiz-Borau, G Wetzstein, D Gutierrez, B Masia.
ACM Transactions on Graphics, Vol. 36(4) (Proc. of SIGGRAPH 2017).
- [2] 2017 **Attribute-preserving Gamut Mapping of Measured BRDFs**
T Sun, A Serrano, D Gutierrez, B Masia.
Computer Graphics Forum, Vol. 36(4) (Proc. of EGSR 2017).
- [3] 2017 **Light Field Image Processing: An Overview**
G Wu, B Masia, A Jarabo, Y Zhang, L Wang, Q Dai, T Chai, Y Liu.
IEEE Journal of Selected Topics in Signal Processing (Special Issue on Light Field Image Processing). To appear October 2017.
- [4] 2017 **Analyzing Interfaces and Workflows for Light Field Editing**
M Ortin, A Jarabo, B Masia, D Gutierrez.
IEEE Journal of Selected Topics in Signal Processing (Special Issue on Light Field Image Processing). To appear October 2017.
- [5] 2017 **Convolutional Sparse Coding for Capturing High Speed Video Content**
A Serrano, E Garces, D Gutierrez, B Masia.
Computer Graphics Forum. DOI: 10.1111/cgf.13086
- [6] 2017 **Recent Advances in Transient Imaging: A Computer Graphics and Vision Perspective**
A Jarabo, B Masia, J Marco, D Gutierrez.
Visual Informatics, Vol. 1(1).
- [7] 2017 **Dynamic Range Expansion Based on Image Statistics**
B Masia, A Serrano, D Gutierrez.
Multimedia Tools and Applications, Vol. 76(1).
- [8] 2016 **An intuitive control space for material appearance**
A Serrano, D Gutierrez, K Myszkowski, H-P Seidel, B Masia.
ACM Transactions on Graphics, Vol. 35(6) (Proc. of SIGGRAPH Asia 2016).
- [9] 2016 **Motion Parallax in Stereo 3D: Model and Applications**
P Kellnhofer, P Didyk, T Ritschel, B Masia, K Myszkowski, H-P Seidel.
ACM Transactions on Graphics, Vol. 35(6) (Proc. of SIGGRAPH Asia 2016).
- [10] 2016 **Convolutional Sparse Coding for High Dynamic Range Imaging**
A Serrano, F Heide, D Gutierrez, G Wetzstein, B Masia.
Computer Graphics Forum, Vol. 35(2) (Proc. of Eurographics 2016). () Honorable Mention.*

- [11] 2016 **Imaging the Propagation of Light Through Scenes at Picosecond Resolution**
A Velten, D Wu, B Masia, A Jarabo, C Barsi, C Joshi, E Lawson, M Bawendi, D Gutierrez, R Raskar.
Communications of the ACM, Vol. 59(9).
- [12] 2016 **Practical Low Cost Recovery of Spectral Power Distributions**
S Alvarez, T Kunkel, B Masia.
Computer Graphics Forum, Vol. 35(1).
- [13] 2015 **Relativistic Effects for Time-Resolved Light Transport**
A Jarabo, B Masia, A Velten, C Barsi, R Raskar, D Gutierrez.
Computer Graphics Forum, Vol. 34(8).
- [14] 2014 **How Do People Edit Light Fields?**
A Jarabo*, B Masia*, A Bousseau, F Pellacini, D Gutierrez.
ACM Transactions on Graphics, Vol. 33(4) (Proc. of SIGGRAPH 2014).
(*) *Joint first authors.*
- [15] 2014 **Decomposing Global Light Transport using Time of Flight Imaging**
D Wu, A Velten, M O'Toole, B Masia, A Agrawal, Q Dai, R Raskar.
International Journal of Computer Vision, Vol. 107(2).
- [16] 2013 **A Metric of Visual Comfort for Stereoscopic Motion**
S-P Du, B Masia, S-M Hu, D Gutierrez.
ACM Transactions on Graphics, Vol. 32(6) (Proc. of SIGGRAPH Asia 2013).
- [17] 2013 **A Survey on Computational Displays: Pushing the Boundaries of Optics, Computation, and Perception**
B Masia, G Wetzstein, P Didyk, D Gutierrez.
Computers & Graphics, Vol. 37(8) (Special Issue on Advanced Displays).
- [18] 2013 **Femto-Photography: Capturing and Visualizing the Propagation of Light**
A Velten, D Wu, A Jarabo, B Masia, C Barsi, C Joshi, E Lawson, M Bawendi, D Gutierrez, R Raskar.
ACM Transactions on Graphics, Vol. 32(4) (Proc. of SIGGRAPH 2013).
- [19] 2013 **Display Adaptive 3D Content Remapping**
B Masia, G Wetzstein, C Aliaga, R Raskar, D Gutierrez.
Computers & Graphics, Vol. 37(6) (Special Issue on Advanced Displays).
Presented at SCCG 2015 — 3rd Best Presentation Award.
- [20] 2012 **Perceptually-Optimized Coded Apertures for Defocus Deblurring**
B Masia, L Presa, A Corrales, D Gutierrez.
Computer Graphics Forum, Vol. 31(6).
- [21] 2009 **Evaluation of Reverse Tone Mapping Through Varying Exposure Conditions**
B Masia, S Agustin, R Fleming, O Sorkine, D Gutierrez.
ACM Transactions on Graphics, Vol. 28(5) (Proc. of SIGGRAPH Asia 2009).

Invited Conference Publications

- [22] 2014 **Computational Photography: Coding in Space and Time**
Belen Masia.
In Spring Conference on Computer Graphics (SCCG) 2014.

Peer-reviewed Conference Publications

- [23] 2017 **Improved Intuitive Appearance Editing based on Soft PCA**
S Malpica, M Barrio, D Gutierrez, A Serrano, B Masia.
In Spanish Conference on Computer Graphics (CEIG) 2017.

- [24] 2016 **Gloss Editing in Light Fields**
Y Gryaditskaya, B Masia, P Didyk, K Myszkowski, H-P Seidel.
In Proc. International Workshop on Vision, Modeling and Visualization (VMV) 2016.
- [25] 2016 **Crossmodal perception in immersive environments**
M Allue, A Serrano, M Bedia, B Masia.
In Spanish Conference on Computer Graphics (CEIG) 2016.
Selected as 2nd Best Paper.
- [26] 2016 **Content-Aware Reverse Tone Mapping**
B Masia, D Gutierrez.
In Proc. of ICAITA 2016.
- [27] 2015 **Light Field Editing Based on Reparameterization**
H Ao, Y Zhang, A Jarabo, B Masia, Y Liu, D Gutierrez, Q Dai.
In Pacific Rim Conference on Multimedia (PCM) 2015.
- [28] 2015 **Compressive High Speed Video Acquisition**
A Serrano, D Gutierrez, B Masia.
In Proc. Spanish Conference on Computer Graphics (CEIG) 2015.
Selected as 2nd Best Paper.
- [29] 2014 **Favored Workflows in Light Field Editing**
B Masia, A Jarabo, D Gutierrez.
In International Conference in Computer Graphics, Visualization, Computer Vision and Image Processing (CGVCVIP) 2014.
- [30] 2014 **Realistic and Affordable Virtual Humans**
B Masia, J Freitas, V Orvalho, M Slater, M Sales, D Gutierrez.
In International Conference in Computer Graphics, Visualization, Computer Vision and Image Processing (CGVCVIP) 2014. Reflection paper.
- [31] 2014 **Low Cost Recovery of Spectral Power Distributions**
S Alvarez, L Presa, T Kunkel, B Masia.
In Spanish Conference on Computer Graphics (CEIG) 2014.
Selected as 2nd Best Paper.
- [32] 2013 **Rendering Relativistic Effects in Transient Imaging**
A Jarabo, B Masia, A Velten, C Barsi, R Raskar, D Gutierrez.
In Spanish Conference on Computer Graphics (CEIG) 2013.
Selected as Best Paper (1 in 2).
- [33] 2012 **Relativistic Ultrafast Rendering Using Time-Resolved Imaging**
A Velten, D Wu, A Jarabo, B Masia, C Barsi, E Lawson, C Joshi, D Gutierrez, M Bawendi, R Raskar.
In SIGGRAPH 2012 Talks. Presented by: A. Velten and B. Masia.
- [34] 2012 **Analysis of Coded Apertures for Defocus Deblurring of HDR Images**
L Garcia, L Presa, D Gutierrez, B Masia.
In Spanish Conference on Computer Graphics (CEIG) 2012.
- [35] 2011 **Coded Apertures for Defocus Deblurring**
B Masia, A Corrales, L Presa, D Gutierrez.
In Iberoamerican Symposium on Computer Graphics (SIACG) 2011.
Selected as Best Paper (1 in 3).
- [36] 2011 **Efficient Propagation of Light Field Edits**
A Jarabo, B Masia, D Gutierrez.
In Iberoamerican Symposium on Computer Graphics (SIACG) 2011.

- [37] 2010 **Selective Reverse Tone Mapping**
B Masia, R Fleming, O Sorkine, D Gutierrez
In Spanish Conference on Computer Graphics (CEIG) 2010.
- [38] 2009 **Single Image Appearance Acquisition Using Genetic Algorithms**
A Muñoz, B Masia, A Tolosa, D Gutierrez
In International Conference in Computer Graphics, Visualization, Computer Vision and Image Processing (CGVCIIP) 2009.
- [39] 2009 **Computer Graphics in Environmental Education**
O Anson, A Muñoz, J Lopez-Moreno, J Jimenez, B Masia, D Gutierrez
In Proc. of Future of Computer Graphics Education 2009.

Book Chapters

- [40] 2011 **Practical Morphological Anti-Aliasing**
J Jimenez, B Masia, J I Echevarria, F Navarro, D Gutierrez
GPU Pro 2: Advanced Rendering Techniques. March 2011.
- [41] 2006 **Virtual Reality in Heritage: Practical Experiences**
D Gutierrez, L Hernandez, A Muñoz, B Masia
Constructing World Heritage (3-88939-795-6).

Refereed Posters

- [42] 2017 **Attribute-preserving Gamut Mapping of Measured BRDFs**
T Sun, A Serrano, D Gutierrez, B Masia.
In ACM SIGGRAPH Posters 2017.
**Winner of the Undergraduate ACM Student Research Competition.*
- [43] 2017 **Analyzing Interfaces and Workflows for Light Field Editing**
M Ortin, A Jarabo, B Masia, D Gutierrez.
In ACM SIGGRAPH Posters 2017.
- [44] 2016 **Intuitive Editing of Material Appearance**
A Serrano, D Gutierrez, K Myszkowski, H-P Seidel, B Masia.
In ACM SIGGRAPH Posters 2016.
- [45] 2015 **An In-depth Analysis of Compressive Sensing for High Speed Video Acquisition**
A Serrano, D Gutierrez, B Masia.
In IEEE International Conference on Computational Photography (ICCP) 2015.
- [46] 2013 **Display Adaptive 3D Content Remapping**
B Masia, G Wetzstein, C Aliaga, R Raskar, D Gutierrez.
In Eurographics Symposium on Rendering (EGSR) 2013.
- [47] 2013 **What is the best interface to edit a light field? – An Evaluation of Interaction Paradigms for Light Field Editing**
A Jarabo, B Masia, A Bousseau, F Pellacini, D Gutierrez.
In Spanish Conference on Computer Graphics (CEIG) 2013.
- [48] 2012 **Perceptually-Optimized Content Remapping for Automultiscopic Displays**
B Masia, G Wetzstein, C Aliaga, R Raskar, D Gutierrez.
In ACM SIGGRAPH Posters 2012.
- [49] 2012 **Perceptually-Motivated Coded Apertures**
L Presa, B Masia, D Gutierrez.
In IEEE International Conference on Computational Photography (ICCP) 2012.
- [50] 2012 **Relativistic Effects in Femto-Photography Movies**
A Jarabo, B Masia, A Velten, R Raskar, D Gutierrez.
In IEEE International Conference on Computational Photography (ICCP) 2012.

- [51] 2009 **Genetic Algorithms for Estimation of Reflectance Parameters**
B Masia, A Muñoz, A Tolosa, O Anson, J Lopez-Moreno, J Jimenez, D Gutierrez.
In Spring Conference on Computer Graphics (SCCG) 2009.

Refereed Tutorials & Courses

- [52] 2012 **Computational Photography**
D Gutierrez, B Masia, A Jarabo.
In Spanish Conference on Computer Graphics (CEIG) 2012.

Technical Reports

- [53] 2012 **Capturing and Rendering Light in Motion**
A Velten, A Jarabo, B Masia, D Wu, C Barsi, D Gutierrez, M Bawendi, R Raskar.
Technical Report RR-12-01, Universidad de Zaragoza. 2012.
- [54] 2011 **Multilinear Regression for Gamma Expansion of Overexposed Content**
B Masia, D Gutierrez.
Technical Report RR-11-03, Universidad de Zaragoza. July 2011.

Patents

- [55] 2014 **Method for obtaining binocular stereoscopic video comfort level including motion**
S-M Hu, S-P Du, B Masia, D Gutierrez.
Publication number: CN103595990 A. Country: China.
Online at <http://www.google.com/patents/CN103595990A> (English version available).

Funding & Awards

- 2017 **Eurographics Young Researcher Award**, awarded by Eurographics to young researchers in the field who have already made a significant contribution. Two awards are given each year.
- 2015 **Eurographics Annual Award for Best PhD Thesis**, awarded by Eurographics to the best thesis defended in the previous academic year (2-3 recipients/year).
- 2015 **Premio Joven Talento Investigador de Tercer Milenio**, awarded to young researchers in science and technology in the region of Aragon (Spain).
- 2014 **MIT Technology Review Innovators Under 35 Spanish Edition Award**, awarded to the ten top innovators in Spain.
- 2014 – 2016 **Max Planck-Prince of Asturias Mobility Grant**, awarded by the Max Planck Gesellschaft. Includes funding for a 4-month research stay at a Max Planck Institute (the Max Planck Institut für Informatik, in this case).
- 2012 – 2013 **NVIDIA Graduate Fellowship Program grant**, awarded by NVIDIA. It included a \$25,000 prize and a hardware donation; the ratio of awarded candidates is ca. 4%.
- 2012 **NVIDIA Academic Program: Tegra prototype gift**, Mobile Computational Photography: Appearance Capture and Editing (with A. Jarabo and D. Gutierrez).
- 2010 – 2014 **FPU Grant. Spanish Ministry of Science and Education**, 4-year PhD grant. Awarded by the Spanish Ministry of Education (40 were awarded nation-wide that year in the area of Computer Science and Information Technologies).
- Mar – Oct 2010 **DGA Grant (regional government)**, 4-year PhD grant. Awarded by the Diputacion General de Aragon (regional government). Renounced it to receive the (more competitive) FPU grant mentioned above.

- Apr – Nov 2009 **I3A Engineering Research Institute**, grant for undergraduate researchers.
2007 – 2008 **Department of Computer Science and Systems Engineering, Universidad de Zaragoza**, grant for undergraduate researchers.

Research Projects

European Projects

- 2016 – 2021 CHAMELEON: Intuitive editing of visual appearance from real-world datasets. *European Commission ERC Program. Project ID: 682080.* PI: Diego Gutierrez.
- 2010 – 2014 GOLEM: Realistic Virtual Humans. *European Commission Marie Curie Industry-Academia Program, Seventh Framework. Grant agreement no.: 251415.* PI: Diego Gutierrez.
- 2011 – 2014 VERVE: Vanquishing fear and apathy through e-inclusion: personalised and populated realistic virtual environments for clinical, home and mobile platforms. *European Commission (FP7-ICT-2011-7). Grant agreement no.: 288914.* PI (in Spain): Diego Gutierrez.
- 2005 – 2006 Development of Multi-Disciplinary Management Strategies for Conservation and Use of Heritage Sites in Asia and Europe (MUMA). *Commission of the European Communities. Asia-Link Programme (ASI/B7-301/98/679-051).* PI: M. T. Albert (PI in Spain: Diego Gutierrez).

National Projects

- 2016 – Present IMAGER: Imagen Computacional. Técnicas avanzadas de edición y visualización mediante computación en dominios alternativos. *Spanish Ministry of Economy and Competitiveness (TIN2016-79710-P).* PI: Belen Masia.
- 2014 – Present Desarrollo de una herramienta digital para evaluar la función visual y los procesos cognitivos visuales en niños preverbales. *Carlos III Health Institute. Spanish Ministry of Economy and Competitiveness.* PI: Victoria Pueyo.
- 2014 – 2015 Lightslice: Captura, análisis y aplicaciones del transporte de luz multidimensional (Aplicación a imagen médica) *Spanish Ministry of Economy and Competitiveness.* PI: Diego Gutierrez.
- 2010 – 2013 MIMESIS: Técnicas de bajo coste para la adquisición de modelos de apariencia de materiales. *Spanish Ministry of Science and Education (TIN2010-21543).* PI: Diego Gutierrez.
- 2008 – 2009 TANGIBLE: Humanos realistas e interacción natural y tangible. *Spanish Ministry of Science and Education (TIN2007-63025).* PI: Francisco J. Seron.

Regional Projects

- 2014 – Present Advanced Multimodal Audiovisual Technologies (TAMA) *Gobierno de Aragon (regional government).* PI: Carlos Orrite.
- 2008 – 2009 Fotografía computacional: nuevos algoritmos de procesamiento de imágenes en alto rango dinámico. *Universidad de Zaragoza (UZ2007- TEC06).* PI: Diego Gutierrez.

Industry Transfer Projects

- 2010 – 2011 Mobile Computational Photography: appearance capture and editing. *NVIDIA Academic Program.* PI: Diego Gutierrez, Belen Masia, Adrian Jarabo.

Feb – Mar 2011 Aumento del rendimiento gráfico, para sistemas de simulación y visualización en tiempo real, a través de técnicas de antialiasing morfológico. *Fundación ARAID (OTRI 2011/0180)*. PI: Diego Gutierrez.

Teaching

- 2015 – Present **Graduate and undergraduate courses at the Department of Computer Science and Systems Engineering**, Universidad de Zaragoza, Spain, 2015–2016, 2016–2017 and 2017–2018: 240 hours/academic year.
(* *List and details of taught courses available under request.*)
- Jan 2014 **Instructor at the MIT Media Lab India Initiative Design Innovation Workshop**, Mumbai, India.
- Fall 2014 **Photography: At the Intersection of Art and Science (110–80215)**, Universidad de Zaragoza, Spain. 5 hours.
- Spring 2013 **Appearance Modeling (110–12085)**, Universidad de Zaragoza, Spain, (*Modelado Visual y Animación, Ingeniería Informática*), 2012–2013: 40 hours.
- Fall 2012, **Introduction to Programming (110–29603)**, Universidad de Zaragoza, Spain,
Fall 2013 (*Informática, Grado en Ingeniería Eléctrica*), 2012–2013: 20 hours; 2013–2014: 40 hours.
- Fall 2013 **Programming Fundamentals (110-30007)**, Universidad de Zaragoza, Spain, (*Fundamentos de Informática, Grado en Ingeniería de Tecnologías Industriales*), 2013–2014: 15 hours.
- Spring 2013 **Editing and Compositing Images (110–25836)**, Universidad de Zaragoza, Spain, (*Composición y Edición de Imágenes, Grado en Diseño Industrial*), 2013–2014: 5 hours.

Publications in Education and Learning

- 2014 **Cooperative Work Techniques for Improvement of Academic Performance: Case Study for an Introductory Programming Course**
Belen Masia, Javier Lacasta, and Rafael Tolosana
In International Congress on Education, Innovation, and Learning Technologies (ICEILT). July 2014.

Education-related Projects

- 2016 **iClickers to improve interactivity, attention and feedback during classes.**
Ana Cristina Murillo, Dario Suarez, Adolfo Munoz, Belen Masia, Domenico Sicignano, Carlos Sagues.
Convocatoria de Innovación Docente 2015/2016 de la Universidad de Zaragoza.
- 2014 **Introducción de técnicas de co-evaluación y uso de portafolio web en la asignatura de Informática Gráfica e Imagen Computacional para acercamiento a la realidad profesional e incremento de la motivación y el rendimiento**
Diego Gutierrez, Belen Masia.
Convocatoria de Innovación Docente 2013/2014 de la Universidad de Zaragoza.
- 2014 **Introducción de técnicas de trabajo cooperativo en los proyectos prácticos de una asignatura introductoria a la programación de computadores para la mejora del rendimiento académico.**
Rafael Tolosana, Belen Masia, Javier Lacasta.
Convocatoria de Innovación Docente 2013/2014 de la Universidad de Zaragoza.

Academic Tutoring

(*) Academic supervision of students during their internships in industry or research laboratories.

- 2016 Miguel Barrio. *Development of a benchmarking setup for material representation models applied to appearance editing.*
Intern at the Graphics & Imaging Lab. July-September 2016, 200 hours.
- 2016 Diego Valero. *Analysis of eye tracking data for visual development assessment.*
Intern at the Graphics & Imaging Lab. July-September 2016, 150 hours.
- 2016 Miguel Galindo. *Implementation of tests in an application for visual development assessment.*
Intern at the Graphics & Imaging Lab. July-September 2016, 150 hours.
- 2016 Yolanda Garcia. *Correction of eye trajectory misalignments in an eye-tracking-based system for visual development assessment.*
Intern at the Graphics & Imaging Lab. July-September 2016, 150 hours.

Supervised Students

Ph.D. Students

- 2014 – Present Ana Serrano. *Efficient acquisition and representation of the plenoptic function.*
Expected graduation date: September 2018.

Interns

- 2016 Tiancheng Sun. *Attribute-Preserving gamut mapping.*
August – October 2016.

M.Sc./B.Sc. Students

(*) Final year students of a 4-year degree, unless otherwise noted. Supervision is during their final degree project.

- 2017 Miguel Barrio. *Exploring material representation models for their use in intuitive appearance editing.*
Expected graduation date: October 2017.
- 2017 Sandra Malpica. *Improvement of a material representation model for intuitive appearance editing.*
Graduated May 2017. Grade: 9.2/10.0
- 2017 Santiago Calvo. *Content-aware style transfer using convolutional neural networks.*
Graduated February 2017. Grade: 9.2/10.0
- 2016 Marcos Allué. *Crossmodal Perception in Immersive Environments.*
Graduated December 2016. Grade: 9.3/10.0
- 2015 Nicolás Landa. *Compressive Sensing Techniques for Image Acquisition.*
Graduated February 2015. Grade: 9.2/10.0
- 2014 Ana Serrano. *A Compressive Sensing Scheme for Video Acquisition Using Overcomplete Dictionaries.* Graduated September 2014. Grade: 9.7/10.0 (*) 5-year degree.
- 2014 Mariel Munilla. *An Application for Early Visual Assessment in Infants.*
Graduated September 2014. Grade: 7.5/10.0
- 2013 Sara Álvarez. *Low-Cost Recovery of Spectral Power Distributions of Light Sources.*
Graduated December 2013. Grade: 9.3/10.0 (*) 5-year degree.
- 2013 Sergio García. *Creation of a Functional Module for a Videogame.*
Graduated December 2013. Grade: 9.0/10.0

- 2013 Jorge Francos. *Creation of a Functional Module for a Videogame*.
Graduated December 2013. Grade: 9.0/10.0
- 2011 – 2012 Luis García. *Refocusing High Dynamic Range Images: Coded and Multiple Apertures*.
Graduated June 2012. Grade: 9.8/10.0 (*) 5-year degree.
- 2011 Lara Presa. *Coded Apertures for Depth Estimation and Image Recovery*.
Graduated June 2011. Grade: 9.7/10.0 (*) 5-year degree.
- 2010 – 2011 Adrián Corrales. *Design of Coded Apertures for Defocus Deblurring*.
Graduated June 2011. Grade: 9.0/10.0 (*) 5-year degree.

Invited Talks

- May 2017 *Single shot high dynamic range imaging using convolutional sparse coding*.
IEEE International Conference on Computational Photography (ICCP) 2017, Stanford, CA.
- May 2015 *The design of imaging techniques with the user in the loop*.
Dagstuhl Seminar on Computational Imaging, Germany.
- May 2015 *Investigación: Luces y Sombras (The research career: Light and shadows)*.
Opening Talk at the 4th I3A Young Researchers Gathering, Spain.
- Apr 2015 *Content remapping for stereoscopic and automultiscopic displays*.
Spring Conference on Computer Graphics, Smolenice, Slovakia.
- Dec 2013 *Combining computation and perception: examples in capture, processing and display*.
Technicolor R&D, Rennes, France.
- Dec 2013 *Applied perception: examples along the imaging pipeline*.
Laboratorio de Óptica, Universidad de Murcia, Spain.
- Sep 2013 *Combining computation and perception: examples in capture, processing and display*.
Reves Research Team, INRIA Sophia Antipolis-Méditerranée, France.
- Sep 2013 *Combining computation and perception: examples in capture, processing and display*.
Computer Graphics Group, Max Plank Institut für Informatik, Saarbrücken, Germany.
- Nov 2012 *Display-Adaptive 3D Content Remapping*.
Graphics Lab, Microsoft Research Asia, Beijing, China.
- Nov 2012 *How perception can influence the imaging pipeline*.
Broadband Network and Digital Media Lab, Tsinghua University, Beijing, China.

Professional Service

Associate Editor

- 2017 – 2015 ACM Transactions on Applied Perception
- 2017 – 2015 Computers & Graphics

Conference Program Chair

- 2017 Eurographics Doctoral Consortium Chair
- 2016 Spanish Conference on Computer Graphics (CEIG)

Program Committee Member

- 2017, 2016 ACM SIGGRAPH Asia Technical Papers
- 2018, 2017 Eurographics Technical Papers
- 2017 ACM SIGGRAPH Asia Technical Briefs
- 2017 ACM Symposium on Virtual Reality Software and Technology (VRST)

- 2017 Eurographics Tutorials
- 2017 – 2015 Pacific Graphics Papers
- 2017, 2016 IEEE International Conference on Computational Photography
- 2017, 2016 ACM Symposium on Applied Perception
- 2017, 2016 Workshop on Computational Cameras and Displays (CCD)
- 2016 ACM SIGGRAPH General Submissions
- 2016 Winter School in Computer Graphics
- 2017 – 2015 International Conference on Computer Graphics Theory and Applications (GRAPP)
- 2015, 2014 Eurographics Short Papers
- 2015, 2014 Spring Conference on Computer Graphics (SCCG)
- 2017 – 2014 Spanish Conference on Computer Graphics (CEIG)
- 2014 Symposium on Applied Perception (SAP)
- 2014 Iberoamerican Symposium on Computer Graphics (SIACG)
- 2013, 2012 Intl. Conf. in Central Europe on Graphics, Visualization and Vision (WSCG)
- 2015 – 2010 International Conference on Computer Graphics and Visualization (CGVCVIP)

Executive Committee Member

- June 2017 – Present Member of the Executive Committee of the Eurographics Spanish Chapter

PhD Thesis Committee Member

- Nov 2016 *Author:* Petr Kellnhofer. *Title:* Perceptual Modeling for Stereoscopic 3D. *Supervisors:* Prof. Karol Myszkowski and Prof. Hans-Peter Seidel. *Defended at:* Saarland University, Germany.
- Oct 2016 *Author:* Elena Garces. *Title:* Exploring Appearance and Style in Heterogeneous Visual Content. *Supervisor:* Prof. Diego Gutierrez. *Defended at:* Universidad de Zaragoza, Spain.
- Oct 2016 *Author:* Jose I. Echevarria. *Title:* Capturing and Editing the Visual World for Artistic Applications. *Supervisor:* Prof. Diego Gutierrez. *Defended at:* Universidad de Zaragoza, Spain.

Master Thesis Reviewer

- Apr 2016 *Author:* Waqar Kahn. *Title:* Effects of crosstalk on perceived depth in stereoscopic and automultiscopic displays. *Supervisor:* Prof. Karol Myszkowski. *Defended at:* Saarland University, Germany.

Reviewer

- 2017 Nature Communications; ACM Transactions on Graphics; ACM SIGGRAPH Technical Papers; Transactions on Visualization and Computer Graphics; High Performance Graphics; Journal of Selected Topics on Signal Processing; IEEE Transactions on Multimedia; Computer Graphics & Applications.
- 2016 ACM Transactions on Graphics; ACM SIGGRAPH Technical Papers; ACM Transactions on Applied Perception; Spring Conf. on Computer Graphics (SCCG); SIBGRAPI; Journal on Display Technology; Journal of Selected Topics on Signal Processing.

- 2015 ACM SIGGRAPH Asia Papers; Eurographics Papers; Eurographics Symposium on Rendering (EGSR); ACM Transactions on Applied Perception; Journal of Modern Optics; PRESENCE; Computer Graphics & Applications; Journal on Computer Animation and Virtual Worlds; Intl. Conf. in Central Europe on Comp. Graphics, Visualization and Comp. Vision (WSCG).
- 2014 ACM Transactions on Graphics; ACM Transactions on Applied Perception; Computer Graphics Forum; ACM SIGGRAPH Technical Papers; ACM SIGGRAPH Asia Technical Papers; Eurographics Papers; Eurographics Symposium on Rendering (EGSR); The Visual Computer; Mathematical Problems in Engineering; Journal on Computer Animation and Virtual Worlds.
- 2013 ACM Transactions on Graphics; IEEE Transactions on Image Processing; Pattern Recognition Letters; ACM SIGGRAPH Asia Papers; Pacific Graphics Papers; Eurographics Papers.
- 2012 ACM SIGGRAPH Papers; ACM SIGGRAPH Asia Papers; IEEE Transactions on Image Processing; Computers & Graphics; Pacific Graphics Papers; ACM SIGG. Asia Briefs.
- 2011 IEEE Computer Graphics and Applications; Ibero-American Symposium on Computer Graphics (SIACG); Workshop on Digital Media and Digital Content Management.
- 2010 ACM SIGGRAPH Asia Courses; Computers & Graphics; Symposium on Applied Perception in Graphics and Visualization (APGV).

Conference Organization

- 2014 Local Co-Chair for CEIG 2014.
- Jun 2013 Local Organizing Committee for EGSR 2013.
- Aug 2012 Student volunteer for SIGGRAPH 2012.
- Jul 2010 Student volunteer for APGV 2010.

University Management

- 2010 – 2011 Member of the Committee for the Comp. Science PhD Program, *Univ. de Zaragoza*.
- 2010 – 2011 Member of the Committee for Quality Evaluation of the Masters Degree in Computer Science and Systems Engineering, *Universidad de Zaragoza*.
- 2009 – 2010 Member of the Committee for the Degree in Electronics and Automatic Control, *Universidad de Zaragoza*.

Collaboration in other scientific dissemination events

- 2016 Talk at a Workshop of the Diana Programme of the Spanish Ministry of Social Services and Equality (Colegio Público Guillermo Fatás).
- 2016 Collaboration in the Organizing Committee of *Wikiformática! en Aragón*.
- 2015 Talks on *Research as a Career Path* for young students (Colegio Mayor Peñalba, Colegio Juan de Lanuza).
- 2015 – 2013, 2011, 2009 Volunteer for *Girls' Day*, *Universidad de Zaragoza*.
- Nov 2010, 2009 Volunteer for the *Engineering Week*, *Universidad de Zaragoza*.

Languages

- Spanish **Native**
- English **Full proficiency**
- German **Advanced**

University of Cambridge Certificate in Advanced English

Goethe-Zertifikat C1

Mandarin **Beginner**
Catalan **Fluent**

(spoken and read)

Last updated: September 2017.