

CURRICULUM VITAE

Name: Emma Muñoz-Moreno
Address: Laboratorio de Procesado de Imagen (LPI)
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Education

- Telecommunications Engineering. University of Valladolid. Spain. July 2003.
- Biomedical Engineering. Postgraduate studies. University of Valladolid. July 2003.
- PhD studies. University of Valladolid. November 2004-present.

Research Fellowships and Professional Positions

- July 2007-present: Research fellow for PhD thesis development, funded by *Junta de Castilla y León*.
- May 2005-July 2005: Research fellow for PhD thesis development, funded by the University of Valladolid.
- January 2004 – April 2004: Researcher at the LPI within an european excellence network: "The European Taskforce Creating Human-Machine Interfaces to Human-Human Communications (SIMILAR)"
- July 2003-December 2004: Researcher at the LPI within a national grant: "Information and Surgical Simulation Technologies in Minimally Invasive Surgery"
- July 2001- December 2001: Research fellow funded by a national grant: "A Computacional Environment for Clinica Intervention: Development of a basic platform and hospital integration"

Research Stays

- November 2005- July 2006. Two months stay in the Center of Technology in Medicine (CTM) at the University of Las Palmas de Gran Canaria (Spain).

Publications

Book Chapter:

- *M. Martín-Fernández, L. Cordero-Grande, E. Muñoz-Moreno, C. Alberola-López*, “**Techniques in the Contour Detection of Kidneys and Their Application**”, in Theme Volumes on Biomedical Systems, World Scientific Publishing Company, Hackensack, NJ, USA, 2006, in press.

Journals:

- *E. Muñoz, S. Rodríguez, A. Vilora, P. Lamata, M.A. Martín, R. de Luis, S. Aja, E.J. Gómez, C. Alberola*, "**Detección de colisiones. Un problema clave en la simulación quirúrgica (Collision Detection: A key problem in surgical simulation)**", *Informática y Salud (I+S)* vol. 48 pp. 23-35, Oct, 2004
- *E. Muñoz, R. Cárdenes, R. de Luis, M.A. Martín, C. Alberola López*, **Image Registration based on Automatic Detection of Anatomical Landmarks for Bone Age Assessment**, *WSEAS Transactions on Computers*, Vol. 11, No. 4, pp. 1596-1603, Nov. 2005.

Conferences:

- *V. García-Pérez, E. Muñoz-Moreno, R. de Luis-García, C. Alberola-López*, **A 3D Collision Handling Algorithm for Surgery Simulation Based on Feedback Fuzzy Logic**, *IEEE EMBS International Conference on Information Technology Applications in Biomedicine (ITAB'06)*, Ioannina, Greece , 26-28 Oct. 2006.
- *M. Martín-Fernández, E. Muñoz-Moreno, C. Alberola-Lopez*, **A Speckle Removal Filter based on an Anisotropic Wiener Filter and the Rice Distribution**, *IEEE International Ultrasonics Symposium*, Vancouver, Canadá, 3-6 Oct, 2006, pp. 1694-1697
- *V. García Pérez, E. Muñoz Moreno, S. Rodríguez Bescós, S. Aja Fernández, C. Alberola López*, "**Respuesta Geométrica a Colisiones Basada en Lógica Borrosa (Geometric collision management based on fuzzy logic)**", *XXIII Congreso Anual de la Sociedad Española de Ingeniería Biomédica (CASEIB'05)*, Madrid, Nov. 2005.
- *P.Lamata, S.Rodríguez Bescós, P.J.Figueras Sola, E.J.Gómez, J.B.Pagador, F.M.Sánchez-Margallo, J.Usón, O.López Escobar, C.Monserrat Aranda, M.Alcañiz Raya, S.Pascual Sánchez-Gijón, E.Muñoz Moreno, V.García, C.Alberola López, M.Bernal, D.Suárez, M.A.Rodríguez-Florido, J.Ruiz-Alzola, A.Oltra, J.Prat, V.García, and J.Zamorano*, "**SINERGIA: simulador de realidad virtual para formación en cirugía laparoscópica (SINERGIA: virtual reality simulator to laparoscopic surgery training)**" , *Proc. XXIII CASEIB - Congreso Anual de la Sociedad Española de Ingeniería Biomédica*, Nov, 2005
- *E. Muñoz Moreno, R. Cárdenes Almeida, R. de Luis García, M.A. Martín Fernández, C. Alberola López*,**Automatic Detection of Landmarks for Image Registration Applied to Bone Age Assessment**, *Proceedings of th 5th WSEAS Int. Conf. on Signal Processing, Computational Geometry & Artificial Vision*, Malta, 15-17 Sep 2005, pp 117-122.

- *M. Á. Martín, E. Muñoz, M. Martín, C. Alberola, **Articulated Registration: Elastic Registration based on a Wire-model***, Proc. of the SPIE 5747. J.M. Fitzpatrick, J.M. Reinhardt, eds., Medical Imaging 2005: Image Processing, San Diego, CA, EE.UU., SPIE Press, 2005, pp.182-191.
 - *S. Rodríguez Bescós, E. Muñoz Moreno, P. Lamata de la Orden, C. Alberola López, and E.J. Gómez Aguilera, "**Detección de Colisiones en Simulación Laparoscópica (Collision Detection in Laparoscopic Simulation)**"*, Proc. XXII CASEIB pp. 81-84, Santiago de Compostela, Nov, 2004
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PREFERRED PROJECTS ON eNTERFACE'07

- **Project:** Multi-Approach DT-MRI Data Analysis & Visualization Platform
Skills to offer: I have a background in DT-MRI processing and visualization. My PhD Thesis deals with tensor processing, namely, DT-MRI registration. I belong to the tensor grand challenge in SIMILAR WP10, and I have contributed to the tensor standard development. I have developed my algorithms in MATLAB and C++. I have basic knowledge of ITK and VTK
- **Project:** USIMAG Tool: A software for real-time Elastography and Tensorial Elastography.
Skills to offer: I have background in ultrasound image processing and C++ programming. I have developed a filtering module for the USIMAG Tool.