

**Elsa D. ANGELINI, Ph.D.**

Associate Professor

Telecom ParisTech  
Department of Signal & Image Processing  
46 rue Barrault  
75 013 Paris, France

Phone: (+33) (1) 45 81 78 90

Email: [elsa.angelini@telecom-paristech.fr](mailto:elsa.angelini@telecom-paristech.fr)

Web page: <http://perso.telecom-paristech.fr/~angelini/>

## Objective and Fields of Interest

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- Objective** Research and project management in medical imaging including acquisition protocols, image processing, multidimensional display, anatomical modeling and quantitative analysis for clinical studies.
- Fields of interest** Signal and image processing, applied mathematics, quantitative methods of analysis, denoising, pattern recognition and segmentation problems, wavelet and time-frequency analysis tools, computer vision, scientific visualization. Clinical applications related to multi-dimensional imaging modalities for denoising, enhancement and segmentation. Assessment of image quality for different clinical protocols and diagnostic applications. Quantification of anatomical structures and physiological functions and validation with clinical studies. Anatomical modeling, meshing, and deformation.

## Education

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- 1998–2002** **PhD Research, Department of Biomedical Engineering, Columbia University, New York, NY, USA.** (Graduate Research Assistant and Teaching Assistant fellowships):
- In charge of a project for denoising and segmentation of real-time 3D cardiac ultrasound with multi-dimensional complex wavelet transforms.
  - Collaboration with ITK Kitware development project. Implemented and tested a hybrid segmentation tool for multidimensional segmentation.
  - Passed the qualifying examination in April 1999. Dissertation proposal passed in December 2000. Dissertation presented and passed in May 2002.
- 1997– 1998** **Master of Science, Department of Biomedical Engineering, Columbia University, New York, NY, USA.** (Whitaker fellowship):
- In charge of project for knee joint cartilage segmentation from MRI. Developed an algorithm for cartilage surface extraction using statistical shape models (PCA).
- 1993–1996** **Bachelor of Science, Ecole Centrale de Nantes, France.**  
Major in Signal and Image Processing. Graduated with Honors.

## Work Experience

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- 2010 (Mar.-Aug.)** **Visiting Scientist, CSIRO-Australian e-Health Research Center, Brisbane, Australia**  
Sabbatical working on two projects: (1) longitudinal detection of anatomical changes on brain MRI for aging population with Alzheimer disease, (2) GPU-based ultrasound image simulation for prostate biopsy from MRI and CT patient-specific data.
- 2007-current** **Visiting Professor of Biomedical Engineering, Columbia University, New York, NY USA.**  
Collaboration with the Heffner Biomedical Imaging Laboratory (A. Laine). Several visiting periods per year. Joint projects and co-supervision of PhD students.
- 2004-current** **Associate Professor, Telecom ParisTech, Paris, France.**

- Teaching basic and advanced signal and image processing methods and medical image technologies (Master-level courses at Telecom ParisTech, University of Paris 6 and ENSAM ParisTech).
  - Research projects on: variational segmentation methods (level sets and deformable models), segmentation and simulation of real-time three-dimensional ultrasound, denoising of medical images with multi-scale analysis functions (wavelet, brushlet), fuzzy image processing of brain MRI, tracking methods for vessel segmentation, anatomical modeling from adult and fetal imaging, biological image processing for microscopy.
- 2002-2004**      **Post-Doctoral Fellow, Department of Biomedical Engineering, Columbia University, New York, NY, USA.**
- Research projects on modeling of cardiac wall deformations with real-time three dimensional ultrasound, neural network classification of genomic images and protein crystals identification.
  - Co-supervision of three PhD students.
- Oct 96–Sept 97**      **Crédit Lyonnais, New York, NY, USA.**  
Consulting in risk management. Validated mathematical models and pricing software tools for derivative products.
- Apr 96-Sept 96**      **Neuromuscular Research Center, Boston University, Boston, MA, USA.**  
Developed a software analysis tool for diagnosis of Carpal Tunnel Syndrome. Set up of clinical experiments, acquired EMG data on volunteers, processed and classified EMG signals with Time-Frequency analysis tools.

## Language & Computer Skills

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<b>Spoken Languages</b>	French:      Mother tongue.
	English:     Fluent (lived for 8 years in the United States).
	Spanish:     Fair knowledge.
<b>Scientific Software</b>	AVS, IDL, Matlab.
<b>Programming Languages</b>	C, C++, Fortran.

## Academic & Professional Honors

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<b>2010-2015</b>	Elected member of the CNRS Scientific advisory board for the ICT sub-committee.
<b>2009-2012</b>	Elected representative of the professors and researchers for the ParisTech Board.
<b>2008-2011</b>	External member of the Evaluation Commission of the INRIA.
<b>2007-present</b>	Member of the Technical Committee on Medical Imaging and Image Processing of the IEEE EMBS society.
<b>2003-present</b>	Associate member of the IEEE Society.
<b>2001</b>	Region finalist of the student paper competition of the IEEE-EMBS annual meeting.
<b>1997-1998</b>	Graduate fellowship from the Whitaker Foundation for first year of graduate studies.

## Professional Activities

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<b>Master BME-Paris:</b>	Co-chair of the International BME-Paris Master Program ( <a href="http://www.bme-paris.org">www.bme-paris.org</a> ) for the 1 <sup>st</sup> year and the 2 <sup>nd</sup> year specialty track in BioImaging (since 2010). The Master is a joint diploma from ParisTech and Université Paris Descartes.
<b>Grant Reviews:</b>	Reviewer for the ANR (French Agence Nationale de la Recherche). Reviewer for the City University of Hong Kong, Research Grant Council.
<b>Journal Editorial:</b>	Associate Editor of the IEEE Transactions on Biomedical Engineering (since 2008).
<b>Journal Reviews:</b>	IEEE Transactions on Image Processing, IEEE Transactions on Medical Imaging, IEEE Transactions on Biomedical Engineering, IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, Signal, Image and Video Computing (Springer), Medical Image Analysis (Springer), Signal Image and Video Processing (Springer).

**Conference Reviews:** ISBI, MICCAI, ICCV, ICPR, MMBIA, FIMH, ICCV.

**Conference Organization Committees:**

**2008** Organizing committee of ISBI' 08 conference (finance chair),  
**2008** Organizing committee of MICCAI' 08 (co-chair of Workshops)

**Conference Program Committees**

**2009** Program committee member of FIMH'09, International Symposium on Visual Computing (ISVC'09).  
**2008** Program committee member of MICCAI' 08 conference.  
**2007** Program committee member of FIMH'07, MICCAI' 07 and MMBIA'07 conferences.  
**2006** Program committee member of EMBC'06 conference.

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## Publications

### PhD Thesis

**E. D. Angelini**, "Spatio-Temporal Analysis of Three-Dimensional Real-Time Ultrasound for Quantification of Ventricular Function," Department of Biomedical Engineering, Columbia University, New York, 2002.

### Journal Papers

L. Bibin, J. Anquez, J.P. de la Plata Alcalde, T. Boubekeur, **E. D. Angelini**, I. Bloch, "Whole-body pregnant woman modeling by digital geometry processing with detailed utero-fetal unit based on medical images", IEEE Transactions on Biomedical Engineering, vol. 57, n° 10, pp. 2346-2358, 2010.

M. Marim, M. Atlan, **E. Angelini**, J.C. Olivo-Marin, "Compressed Sensing with off-axis, frequency-shifting holography", Optics Letters, Vol. 35, n° 6, pp. 871-873, 2010.

Q. Duan, **E. Angelini**, A. Laine, "Real-time segmentation by Active Geometric Functions", Computer Methods and Programs in Biomedicine, Vol. 98, , n° 3, pp. 223-230, 2010.

Q. Duan, **E. Angelini**, A. Laine, "Surface Functions Active" , Volume 20, n°7, Pages 478-490, 2009.

D. Lesage, **E. D. Angelini**, G. Funka-Lea, I. Bloch, " A review of 3D vessel lumen segmentation techniques: Models, features and extraction Schemes", Medical Image Analysis, Vol. 13, pp. 819-845, 2009.

L. Bibin, J. Anquez, **E. D. Angelini**, I. Bloch. "Hybrid 3D pregnant woman and fetus modeling from medical imaging for dosimetry studies". International Journal of Computer Assisted Radiology and Surgery, vol. 5, n° 1, pp. 49-56, 2009.

O. Nempont, J. Atif, **E. Angelini**, I. Bloch, "A new fuzzy connectivity measure for fuzzy sets and associated fuzzy attribute openings, Journal of Mathematical Imaging and Vision, vol. 34, pp. 107-136, 2009.

Q. Duan, **E. D. Angelini**, S. L. Herz, C. M. Ingrassia, K. D. Costa, J. W. Holmes, S. Homma, and A. F. Laine,, "Region-based endocardium tracking on real-time three-dimensional ultrasound", Ultrasound in Medicine and Biology, Vol. 35, No. 2, pp. 256–265, 2009.

A. Moreno, S. Chambon, A. Santhanam, J. Rolland, **E. Angelini** and I. Bloch, "Combining a breathing model and tumor-specific rigidity constraints for registration of CT-TEP thoracic data", Computer Assisted Surgery, Vol. 13, No. 5, pp 281-298, 2008.

J. Puentes, B. Batrancourt, J. Atif, L. Lecornu, **E. Angelini**, I. Bloch, C. Roux, "Integrated Multimedia Electronic Patient Record and Graph-Based Image Information for Cerebral Tumors", Computers in Biology and Medicine, Vol. 38, pp 425-437, 2008.

**E. D. Angelini**, O. Clatz, E. Mandonnet, E. Konukoglu, L. Capelle and H. Duffau, "Glioma dynamics and computational models: A review of segmentation, registration and in silico growth algorithms and their clinical validations", Current Medical Imaging Review, Vol. 3, No. 4, pp:262-276, 2007.

**E. Angelini**, T. Song, B. Mensh, and A. Laine, "Brain MRI Segmentation with Multiphase Minimal Partitioning: A Comparative Study", International Journal of Biomedical Imaging, Vol. 2007, Article ID 10526, 15 pages, 2007.

**E. Angelini** , S. Homma, G. Pearson, J. Holmes, A. Laine "Segmentation of Real-time three-dimensional ultrasound for quantification of ventricular function: a clinical study on right and left ventricles," Ultrasound in Medicine and Biology, vol. 31, issue 9, pp 1143-1158, 2005.

P.-H. G. Chao, Z. Tang, **E. Angelini** , A. C. West, K. D. Costa and C. T. Hung, " Dynamic osmotic loading of chondrocytes using a novel microfluidic device " Journal of Biomechanics 38(6), 1273-1281, 2005.

**E. Angelini**, E. Ciaccio, "Optimized region finding and edge detection of knee cartilage surfaces from magnetic resonance images", Annals of Biomedical Engineering, vol. 31, issue 3, pp 336-345, 2003.

**E. D. Angelini**, A. Laine, S. Takuma, J. Holmes, and S. Homma, "LV volume quantification via spatio-temporal analysis of real-time 3D echocardiography," *IEEE Transactions on Medical Imaging*, vol.20, issue 6, pp 457-469, 2001.

## Book Chapters

Q. Duan, **E. Angelini**, O. Gerard, K. D. Costa, J. W. Holmes, S. Homma and A. Laine, "Cardiac Motion Analysis Based on Optical-Flow of Real-Time 3-D Ultrasound Data", Chapter 9 in *Advances in Diagnostic and Therapeutic Ultrasound Imaging*, Eds. J. S. Suri, C. Kathuria, R.-F. Chang, F. Molinari, A. Fenster, Artech House, pp. 227-246, 2008.

C. Cavaro-Menard, A. Nait-Ali, J-Y Tanguy, **E. Angelini**, C. Le Bozec, J-J Le Jeune, "Specificities of Physiological Signals and Medical Images", *Compression of Biomedical Images and Signals*, Wiley, pp. 43-74, 2008.

Q. Duan, **E. Angelini**, S. Homma and A. Laine, "Tracking Endocardium using Optical Flow along Isovalue Curve", Chapter 14 in *Principles and Advanced Methods in Medical Imaging and Image Analysis*, Eds. A. P. Dhawan, H. K. Huang, D.-S. Kim, World Scientific Publishing, Singapore, pp. 337-360, 2008.

**E. Angelini**, Y. Jin, and A. Laine, "State-of-the-Art of Levelset Methods in Segmentation and Registration of Medical Imaging Modalities," in *Handbook of Biomedical Image Analysis- Registration Models*, Ed.: D. L. W. Jasjit Suri, Swamy Laximinarayan, Kluwer Academic/ Plenum Publishers, pp. 47-102, 2005.

Y. Jin, **E. Angelini**, and A. Laine, "Wavelets in Medical Image Processing: Denoising, Segmentation, and Registration," in *Handbook of Biomedical Image Analysis Vol 1- Segmentation Models - Part a*, Ed.: D. L. W. Jasjit Suri, Swamy Laximinarayan Kluwer Academic/ Plenum Publishers, pp. 305-358, 2005..

**E. D. Angelini** and A. Laine, "Spatio-temporal directional analysis of real-time three dimensional cardiac ultrasound," in *Wavelets in Signal and Image Analysis*, F. Meyer and A. Petrosian, Eds.: Kluwer Academic Publishers, 2001.

## Full-Length Conference Papers

S. Audiere, M. Charbit, **E. Angelini**, V. Miette J. Ourdy, L. Sandrin, "Finite element simulation of shear wave propagation induced by a VCTE probe", *International Conference on the Ultrasonic Measurement and Imaging of Tissue Elasticity*, Snow Bird, UA, USA, 2010.

S. Audiere, M. Charbit, J. , **E. Angelini**, L. Sandrin, "Measurement of the skin-liver capsule distance on ultrasound RF data for 1D transient elastography", *MICCAI*, Beijing, China, LNCS 6362, pp. 34-41, 2010,

M. de Moraes Marim, **E. Angelini**, J.-C. Olivo-Marin , "Denoising in fluorescence microscopy using Compressed Sensing with multiple reconstructions and nonlocal merging", *International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Buenos Aires, Argentina, 2010.

A. Katouzian, **E. D. Angelini**, B. Sturm, and A. F. Laine "Automatic detection of luminal borders in IVUS images by magnitude-phase histograms of complex Brushlet coefficients", *International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Buenos Aires, Argentina, 2010

M. Marim, M. Atlan, **E. Angelini**, J.-C. Olivo-Marin, "Compressed Sensing applications for biological microscopy", *IEEE Workshop on Signal Processing Systems (SIPS)*, San Francisco, USA, 2010.

J. Wojak, **E. D Angelini**, I. Bloch, "Joint variational segmentation of CT\_PET data for tumoral lesions", *IEEE International Symposium on Biomedical Imaging (ISBI)*, Rotterdam, NL, pp. 217-220, 2010.

J. Anquez, L. Bibin, **E. Angelini**, I. Bloch, "Segmentation of the fetal envelope on ante-natal MRI", *IEEE International Symposium on Biomedical Imaging (ISBI)*, Rotterdam, NL, pp. 896-899, 2010.

**E. Angelini**, J. Delon, L. Capelle, E. Mandonnet, "Contrast mapping and statistical testing for low-grade glioma growth quantification on brain MRI", *IEEE International Symposium on Biomedical Imaging (ISBI)*, Rotterdam, NL, pp. 872-875,

2010.

M. de Moraes Marim, M. Atlan, **E. Angelini**, J.-C. Olivo-Marin, "Compressed Sensing for Digital Holographic Microscopy", IEEE International Symposium on Biomedical Imaging (ISBI), Rotterdam, NL, pp. 684-687, 2010. This paper received a **Best Student Paper Award**.

J. Wojak, **E. D. Angelini**, I. Bloch, "Introducing shape constraint via Legendre moments in a variational framework for cardiac segmentation on non-Contrast CT images", VISAPP, Angers, France, 2010. J.P. de la Plata Alcalde, L. Bibin, J.

J. Anquez, T. Boubekour, **E. D. Angelini**, I. Bloch, "Physics-based Modeling of the Pregnant Woman", International Symposium on Biomedical Simulation (ISBMS), Phoenix, USA, Jan. 2010.

M. Marim, **E. D. Angelini**, and J.-C. Olivo-Marin, "Compressed Sensing in microscopy with random projections in the Fourier domain", IEEE Intern. Conf. on Image Processing, (ICIP), Cairo, Egypt, Nov. 2009.

J. Anquez, T. Boubekour, L. Bibin, **E. D. Angelini**, I. Bloch. "Utero-fetal unit and pregnant woman modeling using a computer graphics approach for dosimetry studies", MICCAI, London, UK, pp. 1025-1032, Sept. 2009.

D. Lesage, **E. D. Angelini**, G. Funka-Lea, I. Bloch, "Bayesian maximal paths for coronary artery segmentation from 3D CT angiograms", MICCAI, London, UK, pp. 222-229, Sept. 2009.

A. Katouzian, **E. D. Angelini**, A. F. Laine, "Classification of blood regions in IVUS images using three dimensional brushlet expansions", International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Minneapolis, USA, Sept. 2009

S. Audiere, M. Yassine, M. Charbit, **E. D. Angelini**, V. Miette, L. Sandrin, "Ultrasound-based tool for vibration-controlled transient elastography real-time assistance: automatic liver localization and skin capsule distance measurement", IEEE International Ultrasonics Symposium, Roma, Italy, Sept. 2009.

M. Marim, **E. D. Angelini**, and J.-C. Olivo-Marin, "Compressed sensing in biological microscopy", SPIE International Symposium, Wavelets XIII, conf 7446, San Diego, Aug. 2009.

M. Marim, **E. Angelini** and J.-C. Olivo-Marin, "A compressed sensing approach for biological microscopic image processing", IEEE International Symposium on Biomedical Imaging (ISBI), Boston, USA, pp. 1374-1377, July 2009.

J. Anquez, **E. Angelini** and I. Bloch, "Automatic segmentation of head structures on fetal MRI", IEEE International Symposium on Biomedical Imaging (ISBI), Boston, USA, pp. 109-112, July 2009.

D. Lesage, **E. Angelini**, I. Bloch and G. Funka-Lea, "Design and study of flux-based features for 3D vascular tracking", IEEE International Symposium on Biomedical Imaging (ISBI), Boston, USA, pp. 286-289, July 2009.

Q. Duan, K. Parker, A. Lorsakul, **E. Angelini**, E. Hyodo, S. Homma, J. Holmes, A. Laine, "Quantitative Validation of optical flow based myocardial strain measures using sonomicrometry", IEEE International Symposium on Biomedical Imaging (ISBI), Boston, USA, pp. 454-457, July 2009.

L. Bibin, J. Anquez, **E. Angelini**, I. Bloch, "Hybrid 3D modeling of mother and fetus from medical imaging for dosimetry studies, Computer Assisted Radiology and Surgery (CARS), Berlin, Germany, pp. 378-379, June 2009.

A. Katouzian, **E. D. Angelini**, A. Lorsakul, B. Sturm, A. F. Laine, "Lumen border detection of intravascular ultrasound via denoising of directional wavelet representations", Functional Imaging and Modeling of the Heart (FIMH), Nice, France, vol. 1, pp. 104-113, June 2009.

Q. Duan, **E. D. Angelini**, A. Lorsakul, S. Homma, J. Holmes, A. F. Laine, "Coronary occlusion detection with 4D optical flow", Functional Imaging and Modeling of the Heart (FIMH), Nice, France, vol. 1, pp. 211-219, June 2009.

O. Nempont, J. Atif, **E. Angelini**, I. Bloch, "Structure segmentation and recognition in images guided by structural constraint propagation", European Conference on Artificial Intelligence (ECAI), Patras, Greece, pp. 621-625, July 2008.

O. Nempont, J. Atif, **E. Angelini**, I. Bloch, "Fuzzy attribute openings based on a new fuzzy connectivity class. Application to structural recognition in images", IPMU, Malaga, Spain, pp. 652-659, June 2008.

Q. Duan, **E. D. Angelini**, S. Homma, A. F. Laine, "Real-time segmentation of 4D ultrasound by active geometric functions", IEEE International Symposium on Biomedical Imaging (ISBI), Paris, France, pp. 233-236, May 2008.

D. Lesage, **E. Angelini**, I. Bloch, G. Funka-Lea, "Medial-based Bayesian tracking for vascular segmentation: Application to coronary arteries in 3D CT angiography", IEEE International Symposium on Biomedical Imaging (ISBI), Paris, France, pp. 268-271, May 2008.

- V. Israel-Jost, E. Breton, **E. Angelini**, P. Choquet, I. Bloch, "Vectorial multi-phase mouse brain tumor segmentation in T1-T2 MRI", IEEE International Symposium on Biomedical Imaging (ISBI), Paris, France, pp. 5-8, May 2008.
- J. Anquez, **E. Angelini**, I. Bloch, "Segmentation of fetal 3D ultrasound images based on statistical prior and deformable model", IEEE International Symposium on Biomedical Imaging (ISBI), Paris, France, pp. 17-20, May 2008.
- O. Nempont, J. Atif, **E. Angelini**, I. Bloch, "A new fuzzy connectivity class. Application to structural recognition in images.", IAPR International Conference on Discrete Geometry for Computer Imagery (DGCI), Lyon, France, vol. LNCS 4992, pp. 446-457, Apr. 2008.
- A. Moreno, S. Chambon, A. P. Santhanam, R. Brocardo, P. Kupelian, J. P. Rolland, **E. Angelini**, I. Bloch, "Thoracic CT-PET registration using a 3D breathing model", International Conference on Medical Image Computing and Computerized Medical Imaging (MICCAI), LNCS, Brisbane, Australia, pp.626-633, Oct. 2007.
- A. Moreno, S. Chambon, A. Santhanam, J. Rolland, **E. Angelini** and I. Bloch, "CT-PET landmark-based registration using a dynamic lung model", International Conference on Image Analysis and Processing (ICIAP), Modena, Italy, pp. 691-696, Sept. 2007.
- R. El Berbari, I. Bloch, A. Redheuil, **E. Angelini**, E. Mousseaux, F. Frouin and A. Herment, "An automated myocardial segmentation in cardiac MRI", Engineering in Medicine and Biology Conference, IEEE EMBS Annual International Conference (EMBC), Lyon, France, Aug. 2007.
- J. Anquez, **E. Angelini**, I. Bloch, V. Merzoug, A. E. Bellaiche-Millischer and C. Adamsbaum, "Interest of the steady state free precession (SSFP) sequence for 3D modeling of the whole fetus", IEEE EMBS Annual International Conference (EMBC) , Lyon, France, Aug. 2007.
- A. Moreno, S. Chambon, A. Santhanam, J. Rolland, **E. Angelini** and I. Bloch, "CT-PET landmark-based registration using a dynamic lung model", International Conference on Image Analysis and Processing (ICIAP), Modena, Italy, Sept. 2007.
- O. Nempont, J. Atif, **E. Angelini**, I. Bloch. "Combining radiometric and spatial structural information in a new metric for minimal surface segmentation", International Conference on Information Processing in Medical Imaging (IPMI), LNCS 4584, Kerkrade, The Netherlands, pp. 283-295, July 2007.
- Q. Duan, P. Moireau, **E. D. Angelini**, D. Chapelle, A. Laine, "Simulation of 3D ultrasound with a realistic electro-mechanical model of the heart", International Workshop on Functional Imaging and Modeling of the Heart (FIMH), Springer LNCS 4466, Salt Lake City, USA, pp. 463-473, June 2007.
- R. El Berbari, I. Bloch, A. Redheuil, **E. Angelini**, E. Mousseaux, F. Frouin, A. Herment, "Automated segmentation of the left ventricle including papillary muscles in cardiac magnetic resonance images", International Workshop on Functional Imaging and Modeling of the Heart (FIMH), Springer LNCS 4466, Salt Lake City, USA, pp. 453-462, June 2007.
- H. Khotanlou, J. Atif, **E. Angelini**, H. Duffau and I. Bloch, "Adaptive segmentation of internal brain structures in pathological MR images depending on tumor types", International Symposium on Biomedical Imaging (ISBI), Arlington, VA, USA, pp: 588-591, Apr. 2007.
- J. Atif, C. Hudelot, O. Nempont, N. Richard, B. Batrancourt, **E. Angelini** and I. Bloch, "GRAFIP: A framework for the representation of healthy and pathological cerebral information", International Symposium on Biomedical Imaging (ISBI), Arlington, VA, USA, pp: 205-208, Apr. 2007.
- Q. Duan; **E. Angelini**, S. Homma, A. Laine, "Validation of optical-flow for quantification of myocardial deformations on simulated RT3D ultrasound", International Symposium on Biomedical Imaging (ISBI), Arlington, VA, USA, pp. pp. 944 – 947, Apr. 2007.
- E. Angelini**, J. Atif, J. Delon, E. Mandonnet, H. Duffau and L. Capelle, "Detection of glioma evolution on longitudinal MRI studies International Symposium on Biomedical Imaging (ISBI), Arlington USA, pp. 49-52, Apr. 2007.
- J. Atif, C. Hudelot, G. Fouquier, I. Bloch and **E. Angelini** "From generic knowledge to specific reasoning for medical image interpretation using graph-based representations", International Joint Conference on Artificial Intelligence (IJCAI), Hyderabad, India, pp. 224-229, 2007.
- Q. Duan, **E. Angelini**, S. Homma, A. Laine, "Tracking the endocardium using optical flow along iso-value curves", IEEE EMBS Annual International Conference (EMBC), New York, NY, USA, pp. 707-710, 2006.
- E. Angelini**, O. Gerard, "Review of myocardial motion estimation methods from optical flow tracking on ultrasound data", IEEE EMBS Annual International Conference (EMBC), New York, NY, USA, pp.1537-1540, 2006.

- J. Atif, O. Nempont, O. Colliot, **E. Angelini**, I. Bloch, "Level set deformable models constrained by fuzzy spatial relation," Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU), Paris, France, pp. 1534-1541, 2006.
- J. Puentes, B. Batrancourt, L. Lecornu, J. Atif, G. Coatrieux, **E. Angelini**, I. Bloch, C. Roux, "Enhancing electronic patient record functionality through information extraction from images," IEEE International Conference On Information & Communication Technologies, Damascus, Syria, vol.1, pp. 978-983, 2006.
- Q. Duan, **E. Angelini**, O. Gerard, S. Homma, and A. Laine, "Comparing optical-flow based methods for quantification of myocardial deformations on RT3D ultrasound," IEEE International Symposium on Biomedical Imaging (ISBI), Arlington, VA, USA, pp. 173-176, 2006.
- E. Angelini**, T. Song, and A. Laine, "Homogeneity measures for multiphase level set segmentation of brain MRI," IEEE International Symposium on Biomedical Imaging (ISBI), Arlington, VA, USA, pp. 746-749, 2006.
- P. Soler, G. Delso, N. Villain, **E. Angelini**, and I. Bloch, "Superresolution spatial compounding techniques, with application to 3D breast ultrasound imaging," SPIE Conference on Medical Imaging, San Diego, CA, USA, Vol. 6147, 2006.
- B. Vallet, **E. Angelini**, and A. Laine, "Variational segmentation framework in prolate spheroidal coordinates for 3D real-time echocardiography," SPIE Conference on Medical Imaging, San Diego, CA, USA, Vol. 6144, 2006.
- B. Batrancourt, J. Atif, O. Nempont, **E. Angelini**, I. Bloch, "Integrating information from pathological brain MRI into an anatomic-functional model," IASTED International conference on Biomedical Engineering, Innsbruck, Austria, 2006.
- H. Kothanlou, J. Atif, B. Batrancourt, O. Colliot, **E. Angelini**, I. Bloch, "Segmentation de Tumeurs Cérébrales et Intégration dans un Modèle de l'Anatomie", Reconnaissance des Formes et Intelligence Artificielle (RFIA), Tours, France, 2006. 2nd prize AFRIF.
- P. Soler, O. Gérard, P. Allain, E. Saloux, **E. Angelini**, I Bloch "Comparison of fusion techniques for 3D+T echocardiography acquisitions from different acoustic windows", Computers in Cardiology, Lyon, France, pp. 141-144, 2005.
- Q. Duan, **E. Angelini**, S. Herz, C. Ingrassia, O. Gerard, K. Costa, J. Holmes, A. Laine, "Dynamic cardiac information from optical flow using four-dimensional ultrasound", IEEE EMBS conference, Shanghai, China, pp. 4465 - 4468, 2005.
- Q. Duan, **E. Angelini**, S. Herz, O. Gerard, P. Allain, C. Ingrassia, K. Costa, J. Holmes, A. Laine, "Tracking of LV endocardial surface on real-time three-dimensional ultrasound with optical flow", Workshop on Functional Imaging and Modeling of the Heart (FIMH), Barcelona, Spain, LNCS 3504, Springer, pp. 434-445, 2005.
- P. Soler, N. Villain, I. Bloch and **E. D. Angelini**, "Volume Reconstruction of Breast Echography from Anisotropically Degraded Scans", IASTED International Conference on Biomedical Engineering, Innsbruck, Austria, vol. 9, pp. 349-355, 2005.
- Q. Duan, **E. Angelini**, S. Herz, C. Ingrassia, O. Gerard, K. Costa, J. Holmes, A. Laine, "Evaluation of optical flow algorithms for tracking endocardial surfaces on three-dimensional ultrasound data", SPIE Symposium on Medical Imaging, San Diego, CA, USA, vol. 5750, pp.159-169, 2005.
- E. D. Angelini**, T. Song, B. D. Mensh, A. Laine, "Multi-phase three-dimensional level set segmentation of brain MRI," International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), Saint-Malo, France, vol. 1, pp. 318-326, 2004.
- Ting Song, **Elsa D. Angelini**, Brett D. Mensh, Andrew Laine, "Comparison Study of Clinical 3D MRI Brain Segmentation Evaluation," International Conference IEEE Engineering in Medicine and Biology Society (EMBS), San Francisco, CA, USA, pp. 1671-1674, 2004.
- E. D. Angelini**, Ya Wang, A. Laine, "Classification of Micro Array Genomic Images with Laplacian Pyramidal Filters and Neural Networks", Workshop on Genomic Signal Processing and Statistics (GENSIPS), Baltimore, Maryland, USA, May 26-27, 2004.
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