Elsa D. ANGELINI, Ph.D.

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[1]**Telecom Paris** (Palaiseau, France), LTCI, Institut Polytechnique de Paris & Institut Mines Telecom, Dpt. of Image-Data-Signal.

[2]**Imperial College London,** (London, UK), Division of Computational Medicine, Dpt Metabolism-Digestion-Reproduction, Faculty of Medicine.

[3]**Columbia University** (New York, NY USA), Heffner Biomedical Imaging Laboratory, Department of Biomedical Engineering, and Department of Radiology.

Fields of Expertise

Bio-medical imaging, machine-learning, image computing (segmentation, texture analysis, denoising, pattern recognition), applied mathematics (sparse decomposition, wavelet and time-frequency analysis, variational methods, statistical models, graphical models). Healthcare data. Applications related to disease quantification and subtyping, patient stratification, population-based discovery.

Education

2011 — **Habilitation à Diriger des Recherches (HDR), University of Nice Sophia Antipolis.**
The HDR is the highest academic diploma granted in France. It validates 5 to 10 years of post-PhD research via the submission of a thesis, the written evaluations from two senior researchers and a public oral defense. HDR grants the holder to independently supervise PhD students and apply to full professorship positions. Title of my HDR thesis: "Geometrical models, formulation of constraints, information extraction, for the segmentation of healthy and pathological medical images".

1998–2002 — **PhD, 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 and level-sets.
  - Implemented a novel brushlet-based denoising method and a level-set segmentation method. Ran an evaluation study with clinical collaborators.
  - Brushlet denoising technique was patented.
  - Published results in leading conferences and journals.
- Collaboration with ITK Kitware as part of the Itk Original Developers[1] team.
  - Implemented (C++) and tested a hybrid segmentation tool for multidimensional segmentation.
  - Attended ITK developers meetings.

1997– 1998 — **MSc, Department of Biomedical Engineering, Columbia University, New York, NY, USA.** (Whitaker fellowship):

- In charge of a project on knee joint cartilage segmentation and statistical shape modeling from MRI. Work published in a journal paper.

1993–1996 — Engineering Diploma, Ecole Centrale de Nantes, France.
Major in Signal and Image Processing. Graduated with Honours.

[1] http://www.itk.org/Wiki/ITK/Original_Developers

Work Experience

2004-current **Professor, Telecom Paris, Paris, France.**
On leave between 2012-2021. Double affiliation remained.
- Co-head of the BioMedical Image Processing Group, at Telecom Paris.
- International Master Program BME-Paris (link[2]):
  a. Part of the group of founders who designed the Master program curriculum.
  b. Co-chair of the Bioimaging Track, recruiting 25 students each year. Course supervisor on "Quantification for medical image analysis".
- Teaching introductory and advanced courses on image computing and machine learning methods and physics of biomedical image technologies.
- Research projects in biomedical image computing. Supervised over 17 PhD students and 5 post-doctoral fellows.
- Industrial collaborations: Siemens Corporate Research, Echosens, Philips Healthcare, Renault, Miniara, Tribun Health, SpaceLab.
- Academic collaborations: APHP, Harvard Medical School, Université Paris Cité, Institut Pasteur.
- Research highlights: machine learning, level sets and deformable models, detection of longitudinal changes on brain MRI (patent, review paper with >200 citations), atlas of brain tumors (>200 citations), fuzzy image processing of brain MRI, tracking methods for coronary vessel segmentation on CTA (review paper with >1000 citations, C++ code transferred to Siemens Corporate Research), anatomical modeling of the fetus (code, distribution of anatomical models on the FEMONUM website[3]), numerical models for shear-wave elastography, compressed acquisition for microscopy imaging (code, >130 citations on 2 papers).

2016-2021 **Senior Data Scientist and co-lead of the ITMAT Data Science Group,** Institute for Translational Medicine and Therapeutics (ITMAT), NIHR Imperial Biomedical Research Centre, **Imperial College London, UK.** *Honorary affiliation since 2022.*
- Managed a team of data-science engineers and researchers in machine learning and data science for imaging, health records, phenotypic and omics data.
- Research projects: setup and launch of new data science projects in the Faculty of Medicine (e.g. brain MRI, histopathology, ...), grant writing and training activities, engagement in College-wide initiatives, engagement in discussions with industrials (GSK, AstraZeneca) for the Bioinformatics Section.
- Co-I on several machine-learning projects (funded by Imperial BRC, UK MRC) involving electronic health records, lung CT images of fungal diseases, contrast-enhanced liver ultrasound, gene expression data for lymphoma.

2012-2016 **Senior Research Scientist, Heffner Biomedical Imaging Laboratory, Department of Biomedical Engineering and Department of Radiology, Columbia University, USA**.
Adjunct affiliation since 2016
Co-director of the Heffner Biomedical Imaging Laboratory since 2012. In charge of scientific co-supervision of PhD students, and writing papers and grants.
Active projects:
(1) Co-I on “Quantitative lung analysis on cohorts of CT images for COPD patients” [NIH NHLBI – 5R01HL121270] since 2014. Design and write up of some methodological components of grant proposals. Supervised 6 PhD students and 2 post-doctoral fellows. Co-supervision of the unsupervised learning of lung texture patterns for emhysema radiological phenotypes.
(2) Co-I on “Airway tree subtyping on large cohorts of CT images for COPD risk” [NIH NHLBI – R01HL130506] since 2021. Design and write up of some methodological

[2] http://www.bme-paris.com/
[3] http://femonum.telecom-paristech.fr/

components of grant proposals. Supervising 1 PhD student. Co-supervision of the statistical modeling of airway trees.

Previous projects:

(3) Co-I on NIH-funded projects: "Comparison of cardiac strain quantification on 3DUS and tagged MRI images for various cardiac pathologies" [NIH R01] – "Enhancement of PET images via algorithmic solutions for sparsity enhancement with OSEM" [NIH PhD fellowship].

(4) Collaborations: Hendon's Lab (Dpt EE) on OCT imaging, Zanderigo's Lab (Dpt of Psychiatry) on PET imaging.

2010 (Mar.-Aug.) **Visiting Scientist, CSIRO-Australian e-Health Research Center, Brisbane, Australia**

Sponsored sabbatical stay. Worked on two projects:

(1) Developed a novel mathematical model and image analysis pipeline for longitudinal detection of white matter lesion (WML) growth on aging population with Alzheimer disease: proposed an original statistical test to detect significant longitudinal differences corresponding to WML growth, wrote codes and research report;

(2) GPU-based ultrasound image generation from MRI and CT data for prostate biopsy simulation: supervised an intern coding with CUDA a tool to simulate ultrasound data.

2002-04 **Post-Doctoral Fellow, Department of Biomedical Engineering, Columbia University, New York, NY, USA.**

Lead scientist on four research projects:

(1) Denoising of ultrasound based on anisotropic filtering (technique and code transferred to Philips Healthcare, scientific publications);

(2) Quantifying cardiac wall deformations with real-time three-dimensional ultrasound (code and scientific publications);

(3) Neural network classification of protein crystals images (code and scientific publications);

(4) Multi-phase segmentation of brain MRI structures (code and scientific publications).

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

Spoken Languages	French:	Mother tongue.
	English:	Fluent (lived in the USA-UK for 15 years).
	Spanish:	Fair knowledge.
Scientific Languages	Python, Matlab.	
Programming Languages	C, C++, Visual Basics.	

Image analysis software and libraries: Itk (C++), Vtk (C++), FSL (C), 3D Slicer

Academic & Professional Honors

Senior Member of the IEEE Society since 2012.

2021 Keynote speaker at the "Northern Lights Deep Learning (NLDL)" Workshop, Tromso, Norway (http://nldl.org).

2020 Keynote speaker at "Medical Imaging with Deep Learning" (https://2020.midl.io/)

2014 Keynote speaker at the BioImaging Day of the Biomedical Engineering Department of Carnegie Mellon University, Pittsburgh, USA.

2011	Invited speaker at the Institute for Mathematics and Its Applications, Workshop on “Large Data Sets in Medical Informatics”, University of Minnesota
2011	Invited speaker to the workshop “US-Turkey Advanced meeting on Global Healthcare Challenges and Opportunities”, Antalya, Turkey.
2001	Region finalist of the student paper competition of the IEEE-EMBS annual meeting.
1997	Graduate fellowship from the Whitaker Foundation for first year of graduate studies.

Professional Activities

2024-curr.	Elected representative in the Academic Council of Institut Polytechnique de Paris (France). Vice President and head of the Research sub-Committee.
2023-curr.	Member of the International Scientific Advisory Board for IHU Liryc (France)
2020-curr.	Member of the International Scientific Advisory Board for the Institute for Systems and Computer Engineering, Technology and Science (INESC-TEC) (Portugal).
2018-curr.	co-Chair of the EMBS Summer School on Biomedical Imaging.
2013-curr.	Member (chair 2013-15) of the IEEE EMBS Biomedical Imaging and Image Processing (BIIP) Technical Committee.
2017-19	Vice President for Technical Activities, IEEE Engineering in Medicine and Biology (EMB) Society.
2014-18	Member (chair 2017-18) of the Steering Committee of the IEEE ISBI conference.
2011-16	Member (elected) of the IEEE SPS Bioimaging & Signal processing (BISP) Technical Committee.
2013-15	Elected Europe representative for the Administrative Committee of the IEEE Engineering in Medicine and Biology (EMB) Society.
2011-14	Elected member in the CNRS Scientific Advisory Board for the Computer Science Dpt. (INS2I).
2010-14	EMBS representative member (chair 2013-14) of the steering committee of the IEEE Transactions on Medical Imaging.
2009-12	Elected representative of the academics on the ParisTech Administrative Committee.
2008-11	External member of the Evaluation Commission of INRIA.

Journal Editorial:

2022-curr.	Associate Editor for Medical Image Analysis journal (Elsevier).
2020-curr.	Founding Executive Editor for Biological Imaging journal (Cambridge Univ. Press).
2019-20	Inaugural Associate Editor for the IEEE Open Journal EMB.
2015-22	Editorial Board of Medical Image Analysis journal (Elsevier)
2016-19	Associate Editor for IEEE Journal on Biomedical and Health Informatics.
2008-12	Associate Editor for IEEE Transactions on Biomedical Engineering.

Conference Organization Committees:

2024	co-Chair for Special Sessions of the IEEE ISBI conference (Athens, Greece)
2022	co-Chair for Finance of the IEEE Int. Ultrasonics Symposium (Venice, Italy)
2021	co-Chair for keynote program of the IEEE ISBI conference (Nice, France)
2019	Chair for Finance of the IEEE ISBI conference (Venice, Italy).
2015-19	co-Chair of the Imaging Processing conference of SPIE Medical Imaging (USA).
2015	General Chair of the IEEE ISBI conference (Brooklyn, NY, USA).
2008	Chair for Finance of the IEEE ISBI conference (Paris, France),
2008	co-Chair for Workshops of the MICCAI conference (New York, NY, USA).

Conference Program Committees: 2023: ISBI, **2022:** ISBI, **2021:** ISBI **2020:** VPH, ISBI, SPIE MI **2019:** ISBI**,** MICCAI, SPIE MI**; 2018:** SPIE MI, ISBI **2017:** SPIE MI, ISBI, FIMH; **2016:** SPIE MI, ISBI; **2015:** SPIE MI, FIMH, EMBC; **2014:** SPIE MI, EMBC; **2013:** SPIE MI, FIMH; **2012:** SPIE Medical Imaging (MI), MICCAI; **2011:** FIMH, MICCAI, EMBC; **2009:** FIMH, ISVC; **2008:** MICCAI; **2007:** FIMH, MICCAI, MMBIA; **2006:** EMBC.

Journal Reviews: IEEE Trans. on Image Processing, IEEE Trans. on Medical Imaging, IEEE Trans. on Biomedical Engineering, IEEE Trans. on Ultrasonics, Ferroelectrics, and Frequency Control, Signal Image and Video Computing (Springer), Medical Image Analysis (Elsevier), Nature Scientific Reports, PLOS One.

Conference Reviews: ISBI, MICCAI, IPMI, ICCV, ICPR, CVPR, MMBIA, FIMH, ICCASP, ICIP, EMBC, MIDL (*Honorable Mention as a reviewer in 2021*), SPIE Med. Imaging.

Grant Reviews:

- ANR (French equivalent of the NSF/UKRI), AERES – France
- European Commission Expert, H2020-PHC11, HORIZON-HLTH– 2021-22-24 EU
- Norwegian Council of Research - Norway
- City University of Hong Kong, Research Grant Council – China
- UK Alzheimer's Society, EPSRC, Cancer Research UK, UKRI, MRC – UK.
- "Convergence Grants" on Health & Technology – The Netherlands.

PhD jurys: 16 as "rapporteur" in France + 5 abroad (Norway, Netherlands, Denmark, Belgium, Switzerland)**.**

Recruitment panels:

- Assistant professor recruitment panels: Telecom Paris, Telecom Sud Paris, CentraleSupelec – France (2022-23).
- Research Foundation Flanders (FWO) PhD fellowships (Data Science panel) – Belgium (since 2016)
- CAIXA Foundation Post-Doctoral Junior Leader Programme (Life Sciences panel) – Spain (2022)
- Senior researchers, INRIA – France (2013 & 2020)

Patents

[1] "**Spatio-Temporal Treatment of Noisy Images Using Brushlets**", Awarded June 2, 2009. US Patent Number: US7542622. Inventors: Elsa D. Angelini (50%), Andrew F. Laine (50%).
Abstract: "Treatment and mitigation or reduction of noise effects in noisy image data and data sets is described. Various aspects include treatment of noisy data with brushlet transforms and thresholding operations along with a favorable sequence of spatial and temporal processing and thresholding. Hard and minimax thresholding operators mitigate the noise in the image data. In medical applications this can be useful in removing noise that impairs diagnosis and treatment of patient conditions. In one application, cardiac function is better studied and understood through improved imaging of the heart and cardiac structures. In an exemplary case, a favorable sequence including spatial filtering using a brushlet filter, spatial thresholding of brushlet coefficients, then temporal filtering (first in the time domain then in the frequency domain) and thresholding of temporal coefficients yields an acceptable denoised image data set."

[2] "**Method for quantifying the development of pathologies involving changes in the volumes of bodies, notably tumors"**, Awarded in 2010 in Europe, and May 2015 in the US. US Patent Number: US9026195. Additional references: CN102792336A, EP2435985A1, EP2435985B1, US20120220856, WO2010136584A1. Inventors: Elsa Angelini (70%), Emmanuel Mandonnet (30%), Julie Delon (30%).
Abstract: "A method for quantifying the development of pathologies involving changes in volume of a body represented via an imaging technique, including normalizing gray levels by a midway technique for two images I1 and I2 representing the same scene, resulting in two normalized images I′1 and I′2; calculating a map of signed differences between the two normalized images I′1 and I′2; and performing one or more statistical tests based on the assumption of a Gaussian distribution of the gray levels for healthy tissues in the normalized images I'1 and I'2 and/or in the calculated difference map. Advantageously, results of two or more of the tests can be combined for a more specific characterization of the development."

[3] **"Regularization of images"**, Application US US20170039706A1 (Feb 2017). Inventors: Arthur Mikhno, Elsa D. Angelini, Andrew F. Laine, Todd Ogden, Ramin Parsey, Joseph John Mann. -
Associated with the method "**Image-based locally weighted regularization of MLEM reconstruction for PET images"**, Inventors: Elsa Angelini (40%), Arthur Mikhno (40%), Andrew Laine (20%). Licensed to XXX (Confidential) by Columbia University in 2014.

Publications

PhD & HDR 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.

E. D. Angelini, "Geometrical models, constraints design, information extraction for pathological and healthy medical image", University of Nice Sophia Antipolis, France, 2011.

Peer-Reviewed Journal Articles

M. Vameghestahbanati, L. Kingdom, E. Hoffman, M. Kirby, N. Allen, **E. Angelini**, A. Bertoni, Q. Hamid, J. Hogg, D. Jacobs Jr, A. Laine, F. Maltais, E. Michos, C. sack, D. Sin, K. Watson, A. Wysoczanksi, D. Couper, D. Cooper, M. Han, P. Woodruff, W. Tan, J. Bourbeau, R. G. Barr, B. Smith, “Airway tree caliber heterogeneity and airflow obstruction among older adults", Journal of Applied Physiology, *accepted 2024*

S. N. Naik, R. Forlano, P. Manousou, R. Goldin, **E. D. Angelini**, “Fibrosis severity scoring on Sirius red histology with multiple-instance deep learning”, Biological Imaging, Vol. 3, pp. e17, 2023.

E. D. Angelini, J. Yang, P. P. Balte, E. A. Hoffman, A. Manichaikul, Y. Sun, W. Shen, J. H.M. Austin, N. B. Allen, E. R. Bleecker, R. Bowler, M. H. Cho, C. S. Cooper, D. Couper, M. Dransfield, C. K. Garcia, M. K Han, N. N. Hansel, E. Hughes, D. R. Jacobs, S. Kasela, J. D. Kaufman, J. S Kim, T. Lappalainen, J. Lima, D. Malinsky, F. J Martinez, E. C Oelsner, V. E. Ortega, R. Paine, W. Post, T. Pottinger, M. R Prince, S. S. Rich, E. K. Silverman, B. M. Smith, A. J Swift, K. E. Watson, P. G. Woodruff, A. F. Laine, R. G. Barr, “Pulmonary Emphysema Subtypes Defined by Unsupervised Machine Learning on Computed Tomography Scans”, Thorax, 2023.

M. Vameghestahbanati, C. Sack, A. Wysoczanski, E. Hoffman, **E. Angelini**, N. Allen, A. Bertoni, J. Guo, D. Jacobs, J. Kaufman, A. Laine, C.-L. Lin, D. Malinsky, E. Michos, E. Oelsner, S. Shea, K. Watson, A. Benedetti, R. G. Barr, B. Smith, ”Association of dysanapsis with mortality among older adults”, European Respiratory Journal, Vol. 61, No. 6, 2023.

Z. Huang, Y. Gan, T. Lye, H. Zhang, A. Laine, **E. Angelini**, C. Hendon, “Cardiac Adipose Tissue Segmentation via Image-Level Annotations”, IEEE Journal of Biomedical and Health Informatics (JBHI), pp. 1-12, 2023.

R. Mehta, A. Filos A, [..] **E. Angelini**, [..], S. Bakas, Y.Gal, T. Arbel, "QU-BraTS: MICCAI BraTS 2020 Challenge on quantifying uncertainty in brain tumor segmentation-analysis of ranking scores and benchmarking results", Journal of Machine Learning for Biomedical Imaging (MELBA), 2022.

X. Zhang, **E. D.Angelini**, F. S.Haghpanah, A. F.Laine, Y. Sun, G. T.Hiura, S. M.Dashnaw, M. R. Prince, E. A.Hoffman, B. Ambale-Venkatesh, J. A.Lima, J. M.Wild, E. W. Hughes, R. G. Barr, W. Shen, "Quantification of lung ventilation defects on hyperpolarized MRI: The Multi-Ethnic Study of Atherosclerosis (MESA) COPD study", Magnetic Resonance Imaging, Vol. 92, 2022.

C. Dai, S. Wang, Y. Mo, E. **Angelini**, Y. Guo, W. Bai, "Suggestive annotation of brain MR images with gradient-guided sampling", Medical Image Analysis, Vol. 77, pp. 102373, 2022.

S. F Greenbury, N. T Longford, K. Ougham, **E. D. Angelini**, C. Battersby, S. Uthaya, N. Modi, "A whole population cohort study of changes in neonatal admissions, care processes and outcomes in England and Wales during the COVID-19 pandemic", BMJ Open, Vol. 11(10):e054410, 2021.

J. Yang , **E. D. Angelini**, P. P. Balte, E. A. Hoffman, J, H. M. Austin, B. M. Smith, R. G. Barr, A. F. Laine, “Novel subtypes of pulmonary emphysema based on spatially-informed lung texture learning: The Multi-Ethnic Study of Atherosclerosis (MESA) COPD Study", IEEE Transactions on Medical Imaging, Vol. 40, No 12, pp. 3652-3662, 2021.

S. F Greenbury, **E. D Angelini**, K. Ougham, C. Battersby, C. Gale, S. Uthaya, N. Modi, “Birthweight and patterns of postnatal weight gain in very and extremely preterm babies in England and Wales from 2008-2019”, The Lancet Child & Adolescent Health, Vol. 5, No. 10, pp. 719-728, 2021.

S. Greenbury, K. Ougham, J. Wu, C. Battersby, C. Gale, N. Modi, **E. Angelini**, "Identification of variation in nutritional practice in neonatal units in England and association with clinical outcomes using agnostic machine learning", Nature Scientific Reports, Vol. 11, No.1, pp. 1-5, 2021.

E. Angelini, A. Shah, “Using artificial intelligence in fungal lung disease: CPA CT imaging as an example”, Mycopathologia, pp. 1-5, 2021

G. Yang, J. Chen, Z Gao, S. Li, H. Ni, **E. Angelini**, T. Wong, R. Mohiaddin, E. Nyktari, R. Wage, L. Xu, Y. Zhang, X. Du, H. Zhang, D. Firmin, J. Keegan, “Simultaneous left atrium anatomy and scar segmentations via deep learning in multiview information with attention”, Future Generation Computer Systems: the international journal of grid computing: theory, methods and applications, Vol. 107, pp. 215-228, 2020.

E. Angelini, S. Dahan, A. Shah, “Unravelling machine learning: insights in respiratory medicine”, European Respiratory Journal, Vol. 54, No. 6, 2019.

S. Ebrahimi, L. Gajny, C. Vergari, **E. Angelini**, W. Skalli, “Vertebral rotation estimation from frontal X-rays using a quasi-automated pedicle detection method”, European Spine Journal, Vol. 28, No. 12, pp. 3026-3034, 2019.

M. Wang, C. P. Aaron, J. Madrigano, E. A. Hoffman, **E Angelini**, J. Yang, A. Laine, T. M. Vetterli, P. L. Kinney, P. D. Sampson, L. E. Sheppard, A. A. Szpiro, S. D. Adar, K. Kirwa, B. Smith, D. J. Lederer, A. V. Diez-Roux, S. Vedal, J. D. Kaufman, R. G. Barr, “Association between long-term exposure to ambient air pollution and change in quantitatively assessed emphysema and lung function”, JAMA, Vol. 322, No. 6, pp. 546-556, 2019.

J. Yang, X. Feng, A. Laine, **E. Angelini**, “Characterizing Alzheimer's disease with image and genetic biomarkers using supervised topic models”, IEEE Journal of Biomedical and Health Informatics. 2019.

E. Roccia, A. Mikhno , R. T. Ogden, J. J. Mann, A. F. Laine, **E. D. Angelini**, F. Zanderigo, “Quantifying brain [18F]FDG uptake noninvasively by combining medical health records and dynamic PET imaging data”, IEEE Journal on Biomedical and Health Informatics, 2019.

Y. Ling, W. Meiniel, R. Singh-Moon, **E. Angelini**, J.-C. Olivo-Marin, C. P. Hendon, “Compressed sensing-enabled phase-sensitive swept-source optical coherence tomography”, Optics Express, Vol. 27, No. 2, pp. 855-871, 2019

L. Gajny, S. Ebrahimi, C. Vergari, **E. Angelini**, W. Skalli, “Quasi-automatic 3D reconstruction of the full spine from low-dose biplanar X-rays based statistical inferences and image analysis”, European Spine Journal, pp. 1-7, 2018.

S. Ebrahimi, L. Gajny, W. Skalli, **E. Angelini**, “Vertebral Corners Detection on Sagittal X-rays based on Shape Modelling, Random Forest Classifiers and Dedicated Visual Features”, Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization (TCIV), pp. 1-13, 2018.

W. Meiniel, J.-C. Olivo-Marin, **E. Angelini**, “Denoising of microscopy images: a review of the state- of-the-art, and a new sparsity-based method”, IEEE Transactions on Image Processing, Vol. 27, No.8, pp. 3842-3856, 2018.

C.P. Aaron, J.E. Schwartz, E.A. Hoffman, **E. Angelini**, J.H.M. Austin, M. Cushman, D.R. Jacobs, J.D. Kaufman, A. Laine, L. Smith, J. Yang, K.E. Watson, R.P. Tracy, R.G. Barr, "A longitudinal cohort study of aspirin use and progression of emphysema-like lung characteristics on CT imaging: The MESA Lung Study", Chest, Vol. 154, No. 1, pp. 41-50, 2018.

D. Lesage**, E. D. Angelini**, G. Funka-Lea, I. Bloch, "Adaptive particle filtering for coronary artery segmentation from 3D CT angiograms", Computer Vision and Image Understanding, Vol. 151, pp. 29-46, 2016.

A. Mikhno, F. Zanderigo, R. T. Ogden, J. J. Mann, **E. D. Angelini**, A. F. Laine, R. V. Parsey, "Toward noninvasive quantification of brain radioligand binding by combining electronic health records and dynamic PET imaging data", IEEE Journal of Biomedical and Health Informatics, Vol. 19, No. 14, pp. 1271-1282, 2015.

S. Dahdouh, **E. D. Angelini**, G. Grange, I. Bloch, "Segmentation of embryonic and fetal 3D ultrasound images based on pixel intensity distributions and shape priors", Medical Image Analysis, Vol. 24, No. 1, pp. 255-268, 2015.

N. Varsier, S. Dahdouh, A. Serrurier, J. P. de la Plata, J. Anquez, **E. Angelini**, I. Bloch, J. Wiart, " Influence of pregnancy stage and fetus position on the whole-body and local exposure of the fetus to RF-EMF", Physics in Medicine and Biology, Vol. 59, pp. 4913–4926, 2014.

S. Dahdouh, N. Varsier, A. Serrurier, J. P. de la Plata, J. Anquez, **E. Angelini**, J. Wiart, I. Bloch, "A comprehensive tool for image-based generation of fetus and pregnant women mesh models for numerical dosimetry studies", Physics in Medicine and Biology, Vol 59, pp. 4583-4602, 2014.

Y. Hame, **E. Angelini**, E. Hoffman, G. Barr, A. Laine, "Adaptive quantification and longitudinal analysis of pulmonary emphysema with a hidden Markov measure field model", IEEE Transactions on Medical Imaging, Vol. 33, No.7, pp. 1527 - 1540, 2014.

S. Audiere, **E. Angelini**, L. Sandrin, M. Charbit, "Maximum Likelihood Estimation of Shear Wave Speed in Transient Elastography", IEEE Transactions on Medical Imaging, Vol. 33, No. 6, pp. 1338 - 1349, 2014.

Y. Le Montagner, **E. Angelini**, J.-C. Olivo Marin, "An unbiased risk estimator for image denoising in the presence of mixed Poisson-Gaussian noise", IEEE Transactions on Image Processing, Vol 23, No. 3, pp. 1255-1268, 2014

V. Israel-Jost, J. Darbon, **E. D. Angelini**, I. Bloch. “Conciliating Syntactic and Semantic Constraints for Multi-Phase and Multi-Channel Region Segmentation”, Computer Vision and Image Understanding, vol 117, No 8, pp. 819–826, 2013

P. Schmitt, E. Mandonnet, A. Perdreau, **E. D. Angelini**. “Effects of slice thickness and head rotation when measuring glioma sizes on MRI: In support of volume segmentation versus two largest diameters”, Journal of Neuro-oncology, vol. 112, No 2, pp. 165-172, 2013.

J. Anquez, **E. D. Angelini,** G. Grangé, I. Bloch, “Automatic segmentation of ante-natal 3D ultrasound images”, IEEE Transactions on Biomedical Engineering , vol. 60, No 5 , pp. 1388-400, 2013.

A. Katouzian, **E. Angelini**, S. G. Carlier, J. S. Suri, N. Navab, A. F. Laine, "A state of the art review on segmentation algorithms in intravascular ultrasound (IVUS) images", IEEE Transactions on Information Technology in BioMedicine, vol. 16, No 5, pp. 823 – 834, 2012.

E. Altendorf, E. Decenciere, D. Jeulin, P. De Sa Peixoto, A. Deniset-Besseau, **E. Angelini**, G. Mosser, M.-C. Schanne-Klein, "Imaging and 3D Morphological Analysis of Collagen Fibrils", Journal of Microscopy, vol. 247, No 2, pp. 161-175, 2012.

E Angelini, J. Delon, A. Boubacar Bah, L. Capelle, E, Mandonnet, "Differential MRI Analysis for Quantification of Low Grade Glioma Growth", Medical Image Analysis, vol. 12, No 1, pp. 114-126, 2012.

T. Ius, **E. Angelini,** M. Thiebaut de Schotten, E. Mandonnet, H. Duffau, "Evidence for potentials and limitations of brain plasticity using an atlas of functional resectability of WHO grade II gliomas: towards a "minimal common brain", Neuroimage, Vol 56, No 3, pp. 992-1000, 2011.

M. de Moraes Marim, M. Atlan, **E. Angelini,** J.-C. Olivo-Marin, "Off-axis compressed holographic microscopy in low-light conditions", Optics Letter, vol. 36, n°1, pp. 79-81, 2011.

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, Pages 223-230, 2010.

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

A. Katouzian, **E. Angelini**, B. Sturm, E. Konofagou, S. Carlier, A. Laine, "Applications of Multiscale Overcomplete Wavelet-based Representations in Intravascular Ultrasound (IVUS) Images", in Ultrasound Imaging (Advances and Applications), Eds. J. M. Sanches, A. F. Laine, J. S. Suri, Springer, pp. 313-336, 2012.

Q. Duan, **E. Angelini**, A. F. Laine, J. S. Suri, "Real-Time 4D Cardiac Segmentation by Active Geometric Functions", in Ultrasound Imaging (Advances and Applications), Eds. J. M. Sanches, A. F. Laine, J. S. Suri, Springer, pp. 225-253, 2012. link to erratum specifying correct list of authors.

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 Level set 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 Peer-Reviewed Conference Articles

M. Seince, L. Le Folgoc, L. Facury De Souza, **E. Angelini**, "Dense Self-Supervised Learning for Medical Image Segmentation", International Conference Medical Imaging with Deep Learning (MIDL), *to be presented*, 2024.

X. Zhang, Y. Wu, **E. Angelini**, A. Li, J. Guo, J. M. Rasmussen, T. G O'Connor, P. D. Wadhwa, A. P. Jackowski, H. Li, J. Posner, A. F. Laine, Y. Wang , "MAPSeg: Unified unsupervised domain adaptation for heterogeneous medical image segmentation based on 3D masked autoencoding and pseudo-Labeling", CVPR, *to be presented*, 2024.

X. Zhang, **E. D. Angelini**, E. A. Hoffman, K. E. Watson, B. M. Smith, R. G. Barr, A. F. Laine, "Robust quantification of percent emphysema on CT via domain attention: the Multi-Ethnic Study of Atherosclerosis (MESA) Lung Study", IEEE International Symposium on Biomedical Imaging (ISBI), *to be presented*, 2024.

A. Keshavarzi, **E. Angelini**, "Few-shot airway-tree modeling using data-driven sparse priors", IEEE International Symposium on Biomedical Imaging (ISBI), *to be presented*, 2024.

R. Reme, A. Newson, **E. Angelini**, J.-C. Olivo-Marin, T. Lagache, "Particle tracking in biological images with optical-flow enhanced Kalman filtering"", IEEE International Symposium on Biomedical Imaging (ISBI), *to be presented*, 2024.

E. Dereure, C. Kervazo, J. Seguin, A. Garofalakis, N. Mignet, **E. Angelini**, J.-C. Olivo-Marin, "Wavelet-based sparse non-negative matrix factorization for bioluminescent imaging unmixing", IEEE International Symposium on Biomedical Imaging (ISBI), *to be presented*, 2024.

I. Mounime, W. Lee, T. Marin, P. Han, Y. Djebra, S. Eslahi, P. Gori, **E. Angelini**, G. El Fakhri, "Sparsity constrained linear tangent space alignment model (LTSA) for 3D cardiac extracellular volume mapping", IEEE International Symposium on Biomedical Imaging (ISBI), *to be presented*, 2024.

S, Naik, **E. Angelini**, R. G. Barr, N. Allen, A. Bertoni, E. Hoffman, A. Manichaikul, J. Pankow, W. Post, Y. Sun, K. Watson, B. Smith, A. Laine , "Unsupervised airway tree clustering with deep learning: The Multi-Ethnic Study of Atherosclerosis (MESA) lung study", IEEE International Symposium on Biomedical Imaging (ISBI), *to be presented*, 2024.

E. Dereure, C. Kervazo, S. Johanne, A. Garofalakis , **E. Angelini**, N. Mignet, J.-C. Olivo-Marin, "Sparse non-negative matrix factorization for preclinical bioluminescent imaging", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1-5, 2023.

A. Wysoczanski, **E. Angelini**, Y. Sun, B. Smith, E. Hoffman, K. Stukovsky, M. Budoff, K. Watson, J. Carr, E. Oelsner, R G. Barr, A. Laine, "Multi-View CNN for total lung volume inference on cardiac computed tomography", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1-5, 2023.

R. Reme, V. Piriou, A. Newson, **E. Angelini**, J.-C. Olivo-Marin, T. Lagache, "Tracking intermittent particles with self-learned visual features", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1-5, 2023.

A. Habis, V. Meas-Yedid, D. Felipe G. Obando, J.-C. Olivo-Marin, **E. Angelini**, "Smart learning of click and refine for nuclei segmentation on histology images", IEEE International Conference on Image Processing (ICIP), pp. 2281-2285, 2022.

M. Zang, A. Wysoczanski, **E. Angelini,** A. F. Laine, "3D U-Net sased Semantic segmentation of kidneys and Renal casses on Contrast-enhanced CT", International Challenge on Kidney and Kidney Tumor Segmentation (KiTS21), pp. 143-150, 2022. [*invited paper from participation in the Challenge – ranked 6th – content not peer-reviewed*].

A. Wysoczanski, **E. Angelini**, B. M. Smith, E. Hoffman, G. Hiura, Y. Sun, R. G. Barr, A. F. Laine, “Unsupervised clustering of airway tree structures on high-resolution CT: the MESA Lung Study”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1568-1572, 2021.

Z. Huang, H. Zhang, A. F. Laine, **E. Angelini**, C. Hendon, Y. Gan, “CO-SEG: An image segmentation framework against label corruption”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 550-553, 2021.

A. Nunes, S. Desai, T. Semple, A. Shah, **E. Angelini**, “3D pathological signs detection and scoring on CPA CT lung scans”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 82-85, 2021.

M. Jammes-Floreani, A. F. Laine, **E. Angelini**, “Enhanced-quality GAN (EQ-GAN) on lung CT scans: toward truth and potential hallucinations”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 20-23, 2021.

Z. Huang, Y. Gan, T. Lye, H. Zhang, A. Laine, **E. Angelini**, C. Hendon, “Heterogeneity measurement of cardiac tissues leveraging uncertainty information from image segmentation”, International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), pp. 782-791, 2020.

C. Dai, S. Wang, Y. Mo, **E. Angelini**, R. Zhou, Y. Guo, W. Bai, “Suggestive annotation of brain tumour images with gradient-guided sampling”, International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), pp. 156-165, 2020.

H. Barbaroux, X. Feng, J. Yang, A. Laine, **E. Angelini**, “Encoding human cortex using spherical CNNs - a study on Alzheimer's disease classification”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1322-1325, 2020.

J. Bayet, T. Hoogenboom, R. Sharma, **E. Angelini**, “Machine-learning on liver ultrasound to stratify multiple diseases via blood-vessels and perfusion characteristics”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1351-1354, 2020

Z. Huang, Y. Gan, T. Lye, D. Theagene, S. Chintapalli, S. Virdi, A. F. Laine, **E. Angelini**, C. Hendon, “Segmentation and uncertainty measures of cardiac tissues on Optical Coherence Tomography via convolutional neural networks”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1-4, 2020.

C. Dai, Y. Mo, **E. Angelini**, Y. Guo, W. Bai, “Transfer learning from partial annotations for whole brain segmentation”, MICCAI-Workshops on Domain Adaptation and Representation Transfer and Medical Image Learning with Less Labels and Imperfect Data (DART, MIL3ID), Lecture Notes in Computer Science, vol 11795, pp. 199-206, 2019.

Z. Yang, W. Skalli, C. Vergari, **E.D. Angelini**, L. Gajny, “Automated spinal midline delineation on biplanar X-rays using Mask R-CNN”, ECCOMAS Thematic Conference on Computational Vision and Medical Image Processing (ViPImage)pp. 307-316, 2019*. Best Paper Award*.

M. Zusag, S. Desai, M. Di Paolo, T. Semple, A. Shah, **E. Angelini**, “SAPSAM - Sparsely annotated pathological sign activation maps - a novel approach to train convolutional neural networks on lung CT scans using binary labels only”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 298-302, 2019.

J. Yang, T. Vetterli, P. Balte, G. Barr, A. Laine, **E. Angelini**, “Unsupervised domain adaption with adversarial learning (UDAA) for emphysema subtyping on cardiac CT scans: The MESA study”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 289-293, 2019.

S. Ebrahimi, L. Gajny, W. Skalli, **E. Angelini**, “Automatic segmentation and identification of spinous processes on sagittal x-rays based on random forest classification and dedicated contextual features”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 688-691, 2019.

Y Gan, J. Yang, B. M. Smith, P. Balte, E. Hoffman, C. Hendon, R. G. Barr, A. Laine, **E. Angelini**, “Enhanced generative model for unsupervised discovery of spatially-informed macroscopic emphysema: The mesa COPD study”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1212-1215, 2019,

J. Chen, G. Yang, Z. Gao, H. Ni, **E. Angelini**, T. Wong, R. Mohiaddin, Y. Zhang, X. Du, H. Zhang, J. Keegan, D. Firmin “Multiview two-task recursive attention model for left atrium and atrial scars segmentation”, International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), pp. 455-463, 2018.

G. Yang, J. Chen, Z. Gao, H. Zhang, H. Ni, **E. Angelini**, R. Mohiaddin, T. Wong, J. Keegan, D. Firmin, “Multiview sequential learning and dilated residual learning for a fully automatic delineation of the left atrium and pulmonary veins from late gadolinium-enhanced cardiac MRI images”, IEEE Engineering in Medicine and Biology Society Conference (EMBC), pp. 1123-1127, 2018.

X. Feng, J. Yang, A. Laine, **E. Angelini**, "Alzheimer's disease diagnosis based on anatomically stratified texture analysis of the hippocampus in structural MRI", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1456-1549, 2018

X. Feng, J. Yang, A. Laine, **E. Angelini**, "Discriminative localization in CNNs for weakly-supervised segmentation of pulmonary nodules", International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), pp. 568-576, 2017.

J. Yang, **E. Angelini**, B. M. Smith, P. Balte, E. Hoffman, R. G. Barr, A. Laine, "Unsupervised discovery of spatially- informed lung texture patterns for pulmonary emphysema: The MESA COPD study", International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), pp. 116-124, 2017.

J. Song, J. Yang, B. Smith, P. Balte, E. A. Hoffman, R. G. Barr, A. F. Laine, **E. D. Angelini**, "Generative method to discover emphysema subtypes with unsupervised learned using lung macroscopic patterns (LMPs): The MESA COPD study", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 375-378, 2017.

W. Meiniel, P. Spinicelli, **E. Angelini**, A. Fragola, V. Loriette, F. Orieux, E. Sepulveda, J.-C. Olivo-Marin, "Reducing data acquisition for fast structured illumination microscopy using compressed sensing", IEEE International Symposium on Biomedical Imaging (ISBI), Melbourne, Australia, pp. 32-35, 2017.

J. Yang, **E. D. Angelini**, P. P. Balte, E. A. Hoffman, C. O. Wu, B. A. Venkatesh, R. G. Barr, A. F. Laine, "Emphysema quantification on cardiac CT scans using hidden Markov measure field model: The MESA Lung Study", International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), pp. 624-631, 2016.

J. Yang, **E. D. Angelini**, B. M. Smith, J. Austin, E. A. Hoffman, D. A. Bluemke, R. G. Barr, A. F. Laine, "Explaining radiological emphysema subtypes with unsupervised texture prototypes: MESA COPD Study", MICCAI Workshop on Medical Computer Vision: Algorithms for Big Data, pp. 124-134, 2016.

J. Yang, X. Feng, **E. D. Angelini**, A. F. Laine; "Texton and sparse representation based texture classification of lung parenchyma in CT images", IEEE Engineering in Medicine and Biology Society Conference (EMBC), pp. 1276-1279, 2016.

S. Ebrahimi, **E. Angelini**, L. Gajny, W. Skalli, "Lumbar spine posterior corner detection in X-rays using Haar-based features", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 180-183, 2016.

W. Meiniel, Y. Gan, C. Hendon, J.-C. Olivo-Marin, A. Laine, **E. Angelini**, "Sparsity-based simplification of spectral-domain optical coherence tomography images of cardiac samples", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 373-376, 2016.

E. Roccia, A. Mikhno, F. Zanderigo, **E. Angelini**, T. Ogden, J. J. Mann, R. Parsey, A. F. Laine, "Non-invasive quantification of brain [18F]-FDG uptake by combining medical health records and dynamic PET imaging data", IEEE Engineering in Medicine and Biology Society Conference (EMBC), pp. 2243-2246, 2015.

Y. Gan, **E. Angelini**, A. F. Laine, and C. Hendon, "BM3D-based ultrasound image denoising via brushlet thresholding", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 667–670, 2015.

Y. Hame, **E. Angelini**, R.G. Barr, and A.F. Laine, "Equating emphysema scores and segmentations across CT reconstructions: A comparison study", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 629-632, 2015.

Y. Hame, **E. Angelini**, M. Parikh, B. M. Smith, E. Hoffman, R. G. Barr, and A. F. Laine, "Sparse sampling and unsupervised learning of lung texture patterns in pulmonary emphysema: MESA COPD study", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 109-113, 2015.

W. Meiniel, Y. L. Montagner, **E. Angelini**, and J.-C. Olivo-Marin, "Image denoising by multiple compressed sensing reconstructions", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1232-1235, 2015.

V. Israel-Jost, J. Darbon, **E. D. Angelini**, I. Bloch, "On the implementation of the multi-phase region segmentation, solving the hidden phase problem", IEEE International Conference on Image Processing (ICIP), pp. 4338-4342, 2014.

V. Gamarnik, C. Russo, **E. Angelin**i, A. F. Laine, "Toward diagnostic criteria for left ventricular systolic dysfunction from myocardial deformation", IEEE-EMBS International Conferences on Biomedical and Health Informatics", pp. 688 – 692, 2014.

A. Mikhno, **E. Angelini**, A. F. Laine, "Locally weighted total variation denoising for PSF modeling artifact suppression in PET reconstruction", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 971-974, 2014.

M. Gargouri, J. Tierny, E. Jolivet, P. Petit, **E. D. Angelini**, "Accurate and robust shape descriptors for the identification of rib cage structures in CT-images with Random Forests", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 65-68, 2013.

A. Mikhno, **E.Angelini,** A. F. Laine, B. Bai, "Locally weighted Total Variation denoising for ringing artifact suppression in PET reconstruction using PSF modeling", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1252-1255, 2013.

Y. Hame, **E. Angelini**, E. Hoffman, G Barr, A. F. Laine, “Robust quantification of pulmonary emphysema with a hidden Markov measure field model”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 382-385, 2013.

Y. Le Montagner, **E. Angelini,** J.-C. Olivo-Marin, “Phase retrieval with sparsity priors and application to microscopy video reconstruction”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 604-607, 2013.

S. Dahdouh, A. Serrurier, G. Grangé, **E. Angelini,** I. Bloch, “Segmentation of fetal envelope from 3D Ultrasound images based on pixel intensity statistical distribution and shape priors”, IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1026-1029, 2013.

A. Lorsakul, Q. Duan, C. Russo, **E. Angelini**, S. Homma, A. Laine, "Impact of temporal resolution on the LV myocardial strain assessment on real-time 3D ultrasound", IEEE Engineering in Medicine and Biology Society Conference (EMBC), pp. 4075-4078, 2012.

Y. Le Montagner, **E. Angelini**, J.-C. Olivo-Marin, " Video reconstruction using compressed sensing measurements and 3D Total Variation regularization for bio-imaging applications", IEEE International Conference on Image Processing (ICIP), pp. 917-920, 2012.

G. Pizaine, R. Prevost, **E. Angelini,** I. Bloch, S. Makram-Ebeid, "Segmentation-free and multiscale-gree extraction of medial information using gradient vector flow- Application to vascular structures". IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1421-1424, 2012.

M. Charbit, **E. D. Angelini**, S. Audiere, "Maximum-likelihood estimation of Young's modulus in transient elastography with unknown line-of-sight orientation", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1108-1111, 2012.

A. Katouzian, **E. Angelini**, B. Sturm, A. Laine,"Brushlet segmetnation for automatic detection of lumen borders in IVUS images: a comparison study", EEE International Symposium on Biomedical Imaging (ISBI), pp. 242-245, 2012.

S. Audiere, **E. D. Angelini**, M. Charbit, V. Miette "Evaluation of In vivo liver tissue characterization with spectral RF analysis versus elasticity", International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), LNCS 6891, pp. 387-395, 2011.

A. Lorsakul, Q. Duan, M. J. Po, **E. Angelini**, S. Homma, A. F. Laine, "Parameterization of real-time 3D speckle tracking framework for cardiac strain assessment", IEEE Engineering in Medicine and Biology Society Conference (EMBC) conference, pp. 2654-2657, 2011.

Y. Le Montagner, M. Marim**, E. Angelini**, J.-C. Olivo-Marin, "Numerical evaluation of sampling bounds for near-optimal reconstruction in Compressed Sensing", IEEE International Conference on Image Processing (ICIP), pp. 3073-3076, 2011.

J. P. De La Plata, J. Anquez, L. Bibin, T. Boubekeur, **E. Angelini**, I. Bloch, "FEMONUM: A Framework for Whole Body Pregnant Woman Modeling from Ante-Natal Imaging Data", Eurographics, 2011. Honorable mention of the Dirk Bartz Prize for Visual Computing in Medicine 2011

Y. Le Montagner, **E. Angelini**, J.-C. Olivo-Marin, "Comparison of reconstruction algorithms in Compressed Sensing applid to biomedical imaging", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 105-108, 2011.

G. Pizaine, **E. Angelini**, I. Bloch, S. Makram-Ebeid, "Vessel geometry modeling and segmentation using convolution surfaces and an implicit medial axis", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1421-1424, 2011.

J.P. de la Plata Alcalde, L. Bibin, J. Anquez, Tamy Boubekeur, **E. D. Angelini,** I. Bloch, “Physics-based Modeling of the Pregnant Woman”, International Symposium on Biomedical Simulation (ISBMS), 2010.

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

J. Anquez, T. Boubekeur, L. Bibin, **E. D. Angelini**, I. Bloch. "Utero-fetal unit and pregnant woman modeling using a computer graphics approach for dosimetry studies", International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), pp. 1025-1032, 2009.

D. Lesage, **E. D. Angelini**, G. Funka-Lea, I. Bloch, "Bayesian maximal paths for coronary artery segmentation from 3D CT angiograms", International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), pp. 222-229, 2009.

A. Katouzian**, E. D. Angelini**, A. F. Laine, "Classification of blood regions in IVUS images using three dimensional brushlet expansions", IEEE Engineering in Medicine and Biology Society Conference (EMBC), pp. 471-474, 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), pp. 1374-1377, 2009.

J. Anquez, **E. Angelini** and I. Bloch, " Automatic segmentation of head structures on fetal MRI", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 109-112, 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), pp. 286-289, 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), pp. 454-457, 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), pp. 378-379, 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), vol. 1, pp. 104-113, 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), vol. 1, pp. 211-219, 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), pp. 621-625, 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, pp. 652-659, 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), pp. 233-236, 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), pp. 268-271, 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), pp. 5-8, 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), pp. 17-20, 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), vol. LNCS 4992, pp. 446-457, 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), pp.626-633, 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), pp. 691-696, 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 Engineering in Medicine and Biology Society Conference (EMBC), 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 Engineering in Medicine and Biology Society Conference (EMBC), 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, pp. 283-295, 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, pp. 463-473, 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, 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), 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), 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), 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), 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), pp. 224-229, 2007.

Q. Duan**, E. Angelini**, S. Homma, A. Laine, "Tracking the endocardium using optical flow along iso-value curves", IEEE Engineering in Medicine and Biology Society Conference (EMBC), pp. 707-710, 2006.

E. Angelini, O. Gerard, "Review of myocardial motion estimation methods from optical flow tracking on ultrasound data", IEEE Engineering in Medicine and Biology Society Conference (EMBC), 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), 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, 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), 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), pp. 746-749, 2006.

B. Batrancourt, J. Atif, O. Nempont, **E. Angelini**, I. Bloch, "Integrating information from pathological brain MRI into an anatomo-functional model," IASTED International conference on Biomedical Engineering, 2006.

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", IEEE Computers in Cardiology, 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 Engineering in Medicine and Biology Society Conference (EMBC), 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), 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, vol. 9, pp. 349-355, 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), vol. 1, pp. 318-326, 2004.

T. Song, **E. D. Angelini**, B. D. Mensh, A. Laine, "Comparison Study of Clinical 3D MRI Brain Segmentation Evaluation," IEEE Engineering in Medicine and Biology Society Conference (EMBC), pp. 1671-1674, 2004.

E. Angelini, R. Otsuka, S. Homma, and A. Laine, "Comparison of ventricular geometry for two real time 3D ultrasound machines with three dimensional level set," IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1323-1326, 2004.

E. Angelini, Y. Jin, P. Esser, R. V. Heertum, and A. Laine, "Fusion of brushlet and wavelet denoising methods for nuclear images," IEEE International Symposium on Biomedical Imaging (ISBI), pp. 1187-1191, 2004.

Y. Jin, **E. Angelini**, P. Esser, and A. Laine, "De-noising SPECT/PET images using cross-scale regularization", International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), pp. 32-40, 2003.

Y. Jin, **E. Angelini**, S. Mangla, I. S. Choi, R. Kemkers, J. Timmer, and A. Laine, "Multiscale denoising and enhancement of 3D rotational X-ray imaging for percutaneous vertebroplasty", IEEE Engineering in Medicine and Biology Society Conference (EMBC), vol. 1, pp. 782-785, 2003.

Q. Duan, **E. Angelini**, T. Song, and A. Laine, "Fast interpolation algorithms for three-dimensional real-time cardiac ultrasound," IEEE Engineering in Medicine and Biology Society Conference (EMBC), vol. 2, pp. 1192-1195 2003.

E. D. Angelini, J. Holmes, A. Laine, S. Homma, "Segmentation of RT3D ultrasound with implicit deformable models without gradients", IEEE International Symposium on Image and Signal Processing and Analysis (ISPA), Vol. 2, pp. 711-716, 2003.

E. D. Angelini, D. Hamming, J. Holmes, S. Homma, A. Laine, "Comparison of segmentation methods for analysis of endocardial wall motion with real-time three-dimensional ultrasound", IEEE Computers in Cardiology, pp. 609-612, 2002.

E. D. Angelini, J. Kalifa, A. F. Laine, "Harmonic multiresolution estimators for denoising and regularization of SPECT-PET data", IEEE International Symposium on Biomedical Imaging (ISBI), pp. 697-700, 2002.

E. D. Angelini, A. F. Laine, J. Donis, D. Gersony, and S. Homma, "Quantification of right and left ventricular function with real-time three-dimensional ultrasound," IEEE Engineering in Medicine and Biology Society Conference (EMBC), pp. 2587-2590, 2001.

E. Angelini, S. Takuma, A. Laine, and S. Homma, "Quantification of LV volumes with 4D real-time echocardiography," Proceedings of World Congress on Medical Physics and Biomedical Engineering, 2000.

E. Angelini, A. Laine, S. Takuma, and S. Homma, "Directional representations of 4D echocardiography for temporal quantification of LV volumes," International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), pp. 430-440, 1999.

Conference Abstracts

M. Vameghestahbanati, M. Anacleto-Dabarno, E. Hoffman, M. Kirby, N. Allen, **E. Angelini**, [...], B. Smith, "Airway tree caliber heterogeneity and airflow obstruction", European Respiratory Journal; 58: Suppl. 65, PA1875, 2021.

E. D. Angelini, J. X. Yang, J. Yang, A. Swift, P. P. Balte, E. A. Hoffman, N. B. Allen, J. Lima, E. Donnelly Michos, M. R Prince, Y. Sun, K. E. Watson, A. F. Laine, R. G. Barr, "Cardiovascular Correlates of Machine-learned Quantitative Emphysema Subtypes. The Multi-Ethnic Study of Atherosclerosis (MESA) COPD Study", American Thoracic Society Meeting, 2020.

E. D. Angelini, Y. Sun, J. Yang, P. P. Balte, E. A. Hoffman, N. B. Allen, K. E. Watson, A. F. Laine, R. G. Barr, "Longitudinal Progression of Machine-Learned Quantitative Emphysema Subtypes. The MESA COPD Study" ", American Thoracic Society Meeting, 2020.

M. Zusag, R. Angheleanu, H. Norhan, L. Nwankwo, J. Periselneris, D. Armstrong-James, M. Loebinger, S. Desai, T. Semple, **E. Angelini**, A. Shah, "Weakly supervised deep learning on CT scans predicts survival from Chronic Pulmonary Aspergillosis", British Thoracic Society Meeting, 2018.

J. Yang, **E. D. Angelini**, P. P. Balte, E. A. Hoffman, J. H.M. Austin, B. M. Smith, E. R. Bleecker, R. Bowler, C. Cooper, D. Couper, M. Dransfield, M. K Han, N. N. Hansel, F. J Martinez, R. Paine, P. G. Woodruff, V. E. Ortega, A. F. Laine, R. G. Barr, "Unsupervised Machine-learning of Novel Emphysema Subtypes: The Subpopulations and Intermediate Outcome Measures in COPD Study (SPIROMICS)", European Respiratory Society Meeting, 2018.

J. Yang, **E. D. Angelini**, P. P. Balte, E. A. Hoffman, J. H.M. Austin, B. M. Smith, E. R. Bleecker, R. Bowler, C. Cooper, D. Couper, M. Dransfield, M. K Han, N. N. Hansel, F. J Martinez, R. Paine, J. Schroeder, P. G. Woodruff, V. E. Ortega, A. F. Laine, R. G. Barr, "Unsupervised Discovery of Spatially-Informed Lung Texture Pattern (sLTP) for Pulmonary Emphysema Subtypes: The Subpopulations and Intermediate Outcome Measures in COPD Study (SPIROMICS)", American Thoracic Society Meeting, 2018.

W. Meiniel, J.-C. Olivo-Marin, **E. Angelini**, "Fusion of Sparse Reconstructions", *Signal Processing with Adaptive Sparse Structured Representations* (SPARS) workshop, 2017

W. Meiniel, **E. Angelini**, J.-C. Olivo-Marin, "Image denoising by adaptive Compressed Sensing reconstructions and fusions", Proc. SPIE 9597, Wavelets and Sparsity XVI, 2015.

Y. Le Montagner, **E. Angelini**, J. C. Olivo-Marin: “Biological video reconstruction using linear or non-linear Fourier measurements”. Proc. SPIE 8858, Wavelets and Sparsity XV, 2013.

G. Pizaine, **E. D. Angelini**, I. Bloch, S, Makram-Ebeid, "Implicit medial representation for vessel segmentation", SPIE Medical Imaging, Vol 7962, 2011

Y. Le Montagner, M. Marim, **E. D. Angelini**, J.-C. Olivo-Marin, " Numerical evaluation of subsampling effects on image reconstruction in Compressed-Sensing microscopy", SPIE Wavelet XIII, Vol. 8138 / Applications of Sparse Representations in Bioimaging, 2011.

J. Wiart, S. Watanabe, I. Bloch, J. Anquez, J.P. de la Plata Alcalde, **E. D. Angelini**, T. Boubekeur, N. Faraj, "Exposure to fetus to RF. Preliminary results assessed with different realistic 3D numerical models", Annual Meeting of the Bioelectromagnetics Society, 2011.

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

L. Bibin, J. Anquez, A. Hadjem, **E. D. Angelini**, J. Wiart, I. Bloch. " Dosimetry studies on a fetus model combining medical image information and synthetic woman body". 11th World Congress on Medical Physics and Biomedical Engineering, pp. 378-379, 2009.

M. Marim, **E. Angelini** and J.C. Olivo-Marin, "A compressed sensing approach for biological microscopic image denoising", Workshop SPARS, 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, 2009.

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, 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, Vol. 6144, 2006.

B. Batrancourt, D. Hasboun, J. Atif, C. Hudelot, **E. Angelini** , I. Bloch, "A clustering view of the human brain mapping literature and an anatomo-functional cerebral model",, Human Brain Mapping, 2006.

C. Hudelot, J. Atif, O. Nempont, B. Batrancourt, **E. Angelini**, I. Bloch, "GRAFIP: a framework for the representation of healthy and pathological anatomical and functional cerebral information", Human Brain Mapping, 2006.

E. D. Angelini, T. Song, A. Laine, "Segmentation and quantitative evaluation of brain MRI data with multiphase three-dimensional implicit deformable models", SIAM Conference on Imaging Science, 2006.

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, Vol. 5750, pp.159-169, 2005.

Q. Duan, **E. D. Angelini**, and A. Laine, "Assessment of fast anisotropic diffusion and scan conversion of real-time three-dimensional spherical ultrasound data for visual quality and spatial accuracy," SPIE International Symposium Medical Imaging, Vol. 5370, pp. 526-537, 2004.

E. Angelini, T. Song, B. D. Mensh, and A. Laine, "Segmentation and quantitative evaluation of brain MRI data with a multiphase three-dimensional implicit deformable model," SPIE International Symposium Medical Imaging, 2004.

Y. Wang, D. Kim, **E. Angelini**, A. Laine, "Recognition of micro-array protein crystals images using multi-scale representations", SPIE International Symposium Medical Imaging, pp. 266-273, 2004.

P. Chao, **E. Angelini**, Z. Tang, W. Chang, J. Bulinski, A. West, and C. Hung, “Novel application of microfluidic channels in studying cell migration and reorientation in response to direct current electric fields,” ASME International Mechanical Engineering Congress, 2002.

E. D. Angelini, C. Imielinska, Y. Jin, D. Metaxas, and J. Udupa, “Combining signal information and statistics for high resolution segmentation of radiological images,” SIAM Conference on Imaging Science, 2002.

E. Angelini, C. Imielinska, Y. Jin, and A. Laine, “Improving statistics for hybrid segmentation of high-resolution multichannel images,” Proceedings of SPIE Annual meeting on Medical Imaging, pp. 401-411, 2002.

D. R. Gersony, **E. D. Angelini**, J. Donis, C. Dimayuga, R. J. Barst, R. Saouaf, M. D. Tullio, A. Laine, and S. Homma, “Denoising with brushlet analysis improves real-time three-dimensional calculation of right ventricular function in pulmonary hypertension patients,” proceedings of the Scientific Session of the American College of Cardiology, 2002.

J. Donis, **E. Angelini**, S. Takuma, A. Laine, and S. Homma, “Use of brushlet analysis for denoising of real-time three dimensional echocardiographic data for quantification of left ventricular volumes and ejection fraction,” Proceedings of 12th Annual Scientific Session of the American Society of Echocardiography, 2001.

S. Takuma, C. Dimayuga, **E. Angelini**, T. Hozumi, A. Fard, A. Laine, M. R. D. Tullio, and S. Homma, “Comparison of 3 different 3 dimensional echo methods for volumes determination,” *American Society of Echocardiography*, vol. 13, pp. 490, 2000.

S. Takuma, **E. Angelini**, K. Yoshiara, R. Liu, M. Kazanowski, C. Dimayuga, K. Makita, M. R. D. Tullio, J. W. Holmes, A. F. Laine, and S. Homma, “Fully automated 3D boundary detection in real-time 3D echocardiography,” *Journal of American College of Cardiology*, vol. 35, pp. 469A, 2000.

E. Angelini, S. Takuma, A. Laine, and S. Homma, “Spatio-temporal directional analysis of 4D echocardiography,” Proceedings of SPIE- 45th Annual Meeting, pp. 605-614, 2000.

S. Takuma, **E. Angelini**, A. Laine, S. Homma, T. Ota, and J. Yoshikawa, “Full automatic 3D boundary detection of real-time 3D echocardiography,” *Journal of Cardiology*, vol. 34, pp. 420, 1999.