

Publications

Overview

Journals (Authorship rank)	5y IF	Rank	Quantity
Medical Image Analysis First (1×), Second (-), Last (-), Other (-)	6.977	2/129 ⁽¹⁾	1×
IEEE Transactions on Medical Imaging First (-), Second (1×), Last (-), Other (-)	6.525	3/129 ⁽¹⁾	1×
IEEE Transactions on Automation Science and Engineering First (-), Second (-), Last (-), Other (1×)	5.293	9/62 ⁽²⁾	1×
Medical Physics First (2×), Second (-), Last (-), Other (-)	3.087	35/129 ⁽¹⁾	2×
Ultrasound in Medicine & Biology First (4×), Second (-), Last (-), Other (-)	2.633	63/129 ⁽¹⁾	4×
International Journal of Computer Assisted Radiology and Surgery First (4×), Second (-), Last (-), Other (-)	2.148	64/129 ⁽¹⁾	4×
International Journal of Cardiovascular Imaging First (-), Second (-), Last (-), Other (1×)	1.737	83/129 ⁽¹⁾	1×
Innovation and Research in BioMedical Engineering First (-), Second (1×), Last (-), Other (-)	1.069	73/80 ⁽³⁾	1×
Selected conferences (Authorship rank)	-	-	Quantity
IEEE Ultrasonics Symposium (IUS) First (8×), Second (1×), Last (3×), Other (-)	-	-	9×
International Conference on Information Processing in Computer-Assisted Interventions (IPCAI) First (1×), Second (-), Last (-), Other (-)	-	-	1×
Medical Image Computing and Computer Assisted Intervention (MICCAI) First (-), Second (-), Last (-), Other (2×)	-	-	2×

⁽¹⁾ *Web of Science 2018, "Radiology, Nuclear Medicine & Medical Imaging"*

⁽²⁾ *Web of Science 2018, "Automation & Control Systems"*

⁽³⁾ *Web of Science 2018, "Engineering, Biomedical"*

Journal articles

S. Nitkunanantharajah, **G. Zahnd**, M. Olivo, N. Navab, P. Mohajerani, and V. Ntziachristos, *Skin boundary detection in 3D optoacoustic mesoscopy based on dynamic programming* **IEEE Transactions on Medical Imaging**, in press (2019)

Z. Jiang, Y. Sun, X. Qi, Y. Hu, **G. Zahnd**, and J. Zhang, *Cutting Depth Monitoring Based on Milling Force for Robot-Assisted Laminectomy*, **IEEE Transactions on Automation Science and Engineering**, in press (2019)

G. Zahnd, K. Saito, K. Nagatsuka, Y. Otake, and Y. Sato, *Dynamic Block Matching to assess the longitudinal component of the dense motion field of the carotid artery wall in B-mode ultrasound sequences – Association with coronary artery disease*, **Medical Physics**, 45(11):5041–5053, 2018

G. Zahnd, A. Hoogendoorn, N. Combaret, A. Karanasos, E. Péry, L. Sarry, P. Motreff, W.J. Niessen, E. Regar, G. van Soest, F.J.H. Gijssen, and T. van Walsum, *Contour segmentation of the intima, media and adventitia layers in intracoronary OCT images – Application to fully-automatic*

detection of healthy wall regions, **International Journal of Computer Assisted Radiology and Surgery**, 12(11):1923–1936, 2017

S. Qorchi, **G. Zahnd**, D. Galbrun, A. Sérusclat, P. Moulin, D. Vray, and M. Orksiz, *Kalman-based carotid-artery longitudinal-kinetics estimation and pattern recognition*, **Innovation and Research in BioMedical Engineering**, 38(4):219–223, 2017

G. Zahnd, K. Kapellas, M. van Hattem, A. van Dijk, A. Sérusclat, P. Moulin, A. van der Lugt, M. R. Skilton, and M. Orksiz, *A fully-automatic method to segment the carotid artery layers in ultrasound imaging – Application to quantify the compression-decompression pattern of the intima-media complex during the cardiac cycle*, **Ultrasound in Medicine & Biology**, 43(1):239–257, 2016

A. Hoogendoorn, M. Gnanadesigan, **G. Zahnd**, N.S. van Ditzhuijzen, J.C.H. Schuurbiers, G. van Soest, E. Regar, and J.J. Wentzel, *OCT-measured plaque free wall angle is indicative for plaque burden: overcoming the main limitation of OCT?* **International Journal of Cardiovascular Imaging**, 32(10):1477–1481, 2016

G. Zahnd, J. Schrauwen, A. Karanasos, E. Regar, W.J. Niessen, T. van Walsum, and F.J.H. Gijzen, *Fusion of fibrous cap thickness and wall shear stress to assess plaque vulnerability in coronary arteries: a pilot study*, **International Journal of Computer Assisted Radiology and Surgery**, 11(10):1779–1790, 2016

G. Zahnd, A. Karanasos, G. van Soest, E. Regar, W.J. Niessen, F.J.H. Gijzen, and T. van Walsum, *Quantification of fibrous cap thickness in intracoronary optical coherence tomography with a contour segmentation method based on dynamic programming*, **International Journal of Computer Assisted Radiology and Surgery**, 10(9):1383–1394, 2015

G. Zahnd, S. Salles, A. Sérusclat, P. Moulin, H. Liebgott, and D. Vray, *Real-time ultrasound-tagging to track the 2D motion of the common carotid artery wall in vivo*, **Medical Physics**, 42(2):820–830, 2015

G. Zahnd, S. Balocco, A. Sérusclat, P. Moulin, M. Orksiz, and D. Vray, *Progressive attenuation of the longitudinal kinetics in the common carotid artery: preliminary in vivo assessment*, **Ultrasound in Medicine & Biology**, 41(1):339–345, 2015

G. Zahnd, M. Orksiz, A. Sérusclat, P. Moulin, and D. Vray, *Simultaneous extraction of carotid artery intima-media interfaces in ultrasound images – Assessment of wall thickness temporal variation during the cardiac cycle*, **International Journal of Computer Assisted Radiology and Surgery**, 9(4):645–658, 2013

G. Zahnd, M. Orksiz, A. Sérusclat, P. Moulin, and D. Vray, *Evaluation of a Kalman-based block matching method to assess the bi-dimensional motion of the carotid artery wall in B-mode ultrasound sequences*, **Medical Image Analysis**, 17(5):573–585, 2013

G. Zahnd, D. Vray, A. Sérusclat, D. Alibay, M. Bartold, A. Brown, M. Durand, L.M. Jamieson, K. Kapellas, L.J. Maple-Brown, K. O’Dea, P. Moulin, D.S. Celermajer, and M.R. Skilton, *Longitudinal displacement of the carotid wall and cardiovascular risk factors: associations with aging, adiposity, blood pressure and periodontal disease independent of cross-sectional distensibility and intima-media thickness*, **Ultrasound in Medicine & Biology**, 38(10):1705–1715, 2012 → **Among the 25 most cited UMB articles in the 2012–2017 period**

G. Zahnd, L. Bousset, A. Marion, M. Durand, P. Moulin, A. Sérusclat, and D. Vray, *Measurement of two-dimensional movement parameters of the carotid artery wall for early detection of arteriosclerosis: a preliminary clinical study*, **Ultrasound in Medicine & Biology**, 37(9):1421–1429, 2011 → **Among the 25 most cited UMB articles in the 2011–2016 period**

Conference articles

I. Pavlov, N. Navab, and **G. Zahnd**, *Towards in-vivo ultrasound-histology: Plane-waves and generative adversarial networks for pixel-wise speed of sound reconstruction*, **IEEE Ultrasonics Symposium**, Glasgow (Scotland), 2019

E. Prado, N. Navab, and **G. Zahnd**, *Deep-learning high-dynamic-range ultrasound*, **IEEE Ultrasonics Symposium**, Glasgow (Scotland), 2019

- G. Zahnd**, M. Orkisz, E. E. Dávila Serrano, and D. Vray, *CAROLAB – A platform to analyze carotid ultrasound data*, **IEEE Ultrasonics Symposium**, Glasgow (Scotland), 2019
- J. Esteban, M. Grimm, M. Unberath, **G. Zahnd**, and N. Navab, *Towards fully automatic X-ray to CT registration*, **Medical Image Computing and Computer Assisted Intervention**, Shenzhen (China), 2019
- H. Burwinkel, A. Kazi, G. Vivar, S. Albarqouni, **G. Zahnd**, N. Navab, and S.A. Ahmadi, *Adaptive image-feature learning for disease classification using inductive graph networks*, **Medical Image Computing and Computer Assisted Intervention** Shenzhen (China), 2019
- W. Simson, M. Paschali, **G. Zahnd**, and N. Navab, *DeepFormer: Beamforming Sub-Sampled Raw Ultrasound Data*, **Bildverarbeitung für die Medizin**, Lübeck (Germany), 2019
- W. Simson, N. Navab, and **G. Zahnd**, *Deepforming: a deep learning strategy for ultrasound beamforming applied to sub-sampled data*, **IEEE Ultrasonics Symposium**, Kobe (Japan), 2018
- G. Zahnd**, M. Skilton, and N. Navab, *Automatic quantification of Extra-Medial Thickness in carotid ultrasound*, **IEEE Ultrasonics Symposium**, Kobe (Japan), 2018 → **German Academic Exchange Service travel support award**
- G. Zahnd**, A. Hoogendoorn, N. Combaret, A. Karanasos, E. Péry, L. Sarry, P. Motreff, W. Niessen, E. Regar, G. van Soest, F.J.H. Gijssen, and T. van Walsum, *Contour segmentation of the intima, media and adventitia layers in intracoronary OCT images – Application to fully-automatic detection of healthy wall regions*, **Computer Assisted Radiology and Surgery**, Barcelona (Spain), 2017
- G. Zahnd**, D. Galbrun, S. Qorchi, K. Saito, A. Sérusclat, P. Moulin, K. Nagatsuka, M. Orkisz, Y. Otake, and Y. Sato, *Pattern analysis of the kinematics in ultrasound videos of the common carotid artery – Application to cardiovascular risk evaluation*, **The International Forum on Medical Imaging in Asia (IFMIA)**, Okinawa (Japan), 2017 → **Best oral presentation award**
- T. Sano, N. Fukuda, **G. Zahnd**, Y. Otake, A. Shingo, S. Konda, and Y. Sato, *Three-dimensional ultrasound imaging with a mechanical linear guide system to analyze muscle function*, The Institute of Electronics, Information and Communication Engineers (IEICE), **Technical Committee on Medical Imaging (MI-KEN)**, Okinawa (Japan), 2017
- S. Qorchi, M. Orkisz, A. Sérusclat, P. Moulin, and **G. Zahnd**, *Estimating the periodic compression of the carotid intima-media using ultrasonography: A proof of concept*, **Recherche en Imagerie et Technologies pour la Santé (RITS)**, Lyon (France), 2017
- S. Qorchi, D. Galbrun, M. Orkisz, D. Vray, A. Sérusclat, P. Moulin, and **G. Zahnd**, *Extraction of characteristic pattern from carotid longitudinal kinetic*, **Recherche en Imagerie et Technologies pour la Santé (RITS)**, Lyon (France), 2017
- J. Schrauwen, **G. Zahnd**, A. Karanasos, E. Regar, W.J. Niessen, T. van Walsum, and F.J.H. Gijssen, *Fusion of fibrous cap thickness and wall shear stress to assess plaque vulnerability in human coronary arteries*, **6th Dutch Bio-Medical Engineering Conference**, Egmond aan Zee (The Netherlands), 2016
- G. Zahnd**, J. Schrauwen, A. Karanasos, J. van der Sijde, E. Regar, W.J. Niessen, F.J.H. Gijssen, and T. van Walsum, *Fusion of imaging parameters for prediction of plaque rupture in human coronary arteries*, **Medical Image Computing and Computer Assisted Intervention (MICCAI CVII-STENT Workshop)**, Munich (Germany), 2015
- G. Zahnd**, A. Karanasos, G. van Soest, E. Regar, W.J. Niessen, F.J.H. Gijssen, and T. van Walsum, *Fibrous cap thickness quantification in intracoronary optical coherence tomography with dynamic programming segmentation*, **Optics in Cardiology**, Rotterdam (The Netherlands), 2015
- A. Courcelles, A. Sérusclat, P. Moulin and **G. Zahnd**, *Estimation of the wall shear stress in the common carotid artery using a mesh-based framework*, **5th Dutch Bio-Medical Engineering Conference**, Egmond aan Zee (The Netherlands), 2015
- J. Schrauwen, **G. Zahnd**, J.J. Wentzel, E. Regar, T. van Walsum and F.J.H. Gijssen, *Fusion of shear stress mapping and OCT for prediction of plaque rupture in human coronary arteries*, **Optics in Cardiology**, Rotterdam (The Netherlands), 2015

G. Zahnd, A. Karanasos, G. van Soest, E. Regar, W.J. Niessen, F.J.H. Gijsen and T. van Walsum, *Semi-automated quantification of fibrous cap thickness in intracoronary optical coherence tomography*, **International Conference on Information Processing in Computer-Assisted Interventions (IPCAI)**, Fukuoka (Japan), 2014 → **Third best paper award**

G. Zahnd, A. Karanasos, G. van Soest, E. Regar, W.J. Niessen, F.J.H. Gijsen and T. van Walsum, *Fully automated detection of healthy wall sections in intracoronary optical coherence tomography*, **Medical Image Computing and Computer Assisted Intervention (MICCAI CVII-STENT Workshop)**, Boston, Massachusetts (USA), 2014 → **Best paper award**

G. Zahnd, M. Orkisz, S. Balocco, A. S erusclat, P. Moulin and D. Vray, *Tracking arterial wall motion in a 2D+t volume*, **IEEE Biomedical and Health Informatics**, Valencia (Spain), 2014 → **Best paper finalist**

G. Zahnd, M. Orkisz, A. S erusclat and D. Vray, *Longitudinal motion of the carotid artery wall and speckle decorrelation issue: accurate estimation using a Kalman-based speckle tracking method*, **IEEE Ultrasonics Symposium**, Dresden (Germany), 2012

S. Salles, **G. Zahnd**, H. Liebgott, A. S erusclat and D. Vray, *Real time US-tagging combined with phase-based optical flow applied to 2D motion estimation of the carotid artery wall*, **IEEE Ultrasonics Symposium**, Dresden (Germany), 2012

G. Zahnd, M. Larsson, H. Gao, A. S erusclat, D. Vray and J. D'Hooge, *A novel method to generate synthetic ultrasound data of the carotid artery based on in vivo observation as a tool to validate algorithm accuracy*, **IEEE Ultrasonics Symposium**, Dresden (Germany), 2012

S. Salles, **G. Zahnd**, H. Liebgott, A. S erusclat and D. Vray, *Estimation 2D du mouvement de la paroi carotidienne sur des s equences d'images US RF taggu ees*, **Nouvelles m ethodologies en imagerie du vivant**, Lyon (France), 2012

G. Zahnd, L. Boussel, A. S erusclat and D. Vray, *Intramural shear strain can highlight the presence of atherosclerosis: a clinical in vivo study*, **IEEE Ultrasonics Symposium**, Orlando, Florida (USA), 2011 → **IEEE US student travel support award**

G. Zahnd, M. Orkisz, A. S erusclat and D. Vray, *Minimal-path contours combined with speckle tracking to estimate 2D displacements of the carotid artery wall in B-mode imaging*, **IEEE Ultrasonics Symposium**, Orlando, Florida (USA), 2011

G. Zahnd, M. Orkisz, A. S erusclat and D. Vray, *Estimation de la trajectoire 2D des parois de l'art ere carotide, dans des s equences d'images  chographiques, par une approche conjointe de segmentation et de suivi de speckle guid e*, **Groupe de Recherche en Traitement du Signal et des Images (GRETSI)**, Bordeaux (France), 2011

G. Zahnd, A. Marion, A. S erusclat, P. Moulin, M. Durand, L. Boussel and D. Vray, *A new user-independent in vivo method for 2D motion estimation of the carotid wall by ultrasound imaging for early detection of pathological behavior*, **IEEE Ultrasonics Symposium**, San Diego, California (USA), 2010

G. Zahnd, A. Marion, A. S erusclat, M. Durand, L. Boussel and D. Vray, *Estimation des param etres m ecaniques de la paroi carotidienne par imagerie ultrasonore in vivo pour la d etection pr ecocce de comportements pathologiques*, **10 eme Congr es Fran ais d'Acoustique (CFA)**, Lyon (France), 2010

G. Zahnd, A. Basarab, H. Liebgott, O. Basset and P. Delachartre, *Real-time specific beamforming applied to motion trajectory estimation in ultrasound imaging*, **IEEE Ultrasonics Symposium**, Roma (Italy), 2009

Book Edition

D. Stoyanov, Z. Taylor, S. Balocco, R. Sznitman, A. Martel, L. Maier-Hein, L. Duong, **G. Zahnd**, S. Demirci, S. Albarqouni, S. L. Lee, S. Moriconi, V. Cheplygina, D. Mateus, E. Trucco, E. Granger, and P. Jannin, *Intravascular Imaging and Computer Assisted Stenting, and Large-Scale Annotation of Biomedical Data and Expert Label Synthesis* **SPRINGER**, ISBN 9783030013639, 2018

J. Cardoso, T. Arbel, J. Lee, V. Cheplygina, S. Balocco, D. Mateus, **G. Zahnd**, L. Maier-Hein, S.

Demirci, E. Granger, L. Duong, M. A. Carbonneau, S. Albarqouni, and G. Carneiro, *Intravascular Imaging and Computer Assisted Stenting, and Large-Scale Annotation of Biomedical Data and Expert Label Synthesis*, **SPRINGER**, ISBN 9783319675336, 2017

S. Balocco, M. Zuluaga, **G. Zahnd**, S. L. Lee, and S. Demirci, *Computing and Visualization for Intravascular Imaging and Computer-Assisted Stenting*, **ELSEVIER**, ISBN 9780128110188, 2016

Software license

G. Zahnd, M. Orkisz, and D. Vray, *CAROLAB*, doi : 10.5281/zenodo.398680, 2017

PhD thesis

G. Zahnd, *Estimation du mouvement bi-dimensionnel de la paroi artérielle en imagerie ultrasonore par une approche conjointe de segmentation et de speckle tracking*, **Creatis, Université de Lyon**, 2012