

COLLABORATION BETWEEN uB/UdG

- 6 PhD thesis defended since 2001
- 3 Phd thesis in progress
- 11 publications in international journals
- 37 publications in international conferences

I. Joint Projects

Erasmus Mundus Masters in Vision and Robotics (VIBOT), 2006-2017

- Coordinators: Bernard Lamalle, Fabrice Mériaudeau, David Fofi
- Coordinating institution: University of Burgundy
- Erasmus Mundus Master Course
- Awarded in 2006 and 2011, from 400 to 600 applications / year

Enhance the Attractiveness of Computer Vision and Robotics in Europe (EACOVIRE), 2008-2011

- Coordinator: Fabrice Mériaudeau (uB)
- Coordinating institution: University of Burgundy
- Erasmus Mundus Action 4
- 18 partners world wide

Double-degree Master Program in Vision and Robotics (VICOT), 2012

- Coordinators: Fabrice Mériaudeau (uB), Robert Marti (UdG)
- Labelled by the OMJ (Office Méditerranéen de la Jeunesse)

Joint PhD Program in Computer Vision, 2012

- Coordinators: Fabrice Mériaudeau (uB), Arnau Oliver (UdG)
- Labelled by the OMJ (Office Méditerranéen de la Jeunesse)

II. Joint PhD

Guillaume Lemaître, 2016

Title: « Computer Aided Diagnosis (CAD) system for prostatic biopsy guidance and follow-up using multi-modal medical imaging »

Supervised by Robert Marti and Fabrice Mériaudeau

Mojdeh Ratsgoo, 2016

Title: « Polarimetric and Multispectral Imaging Applied to Malignant Melanoma Detection »

Supervised by Rafael Garcia, Olivier Morel and Franck Marzani

Christian Mata Miquel, 2015

Title: « Web-based application for medical imaging management »

Supervised by Alain Lalande, Arnau Oliver and Joan Martí

Joan Massich-Vall, 2013

Title: « Deformable Object Segmentation in Ultra-Sound Images »

Supervised by Joan Marti and Fabrice Mériaudeau

Soumya Ghose, 2012

Title: « Robust Image Segmentation Applied to Magnetic Resonance and Ultrasound Images of the Prostate »

Supervised by Fabrice Mériaudeau, Jordi Freixenet and Arnau Oliver

Jhimli Mitra, 2012

Title: « Multimodal Image Registration Applied to Magnetic Resonance and Ultrasound Prostatic Images »

Supervised by Robert Marti and Fabrice Mériaudeau

Thierry Molinier, 2009

Title: « Approche Coopérative pour l'Acquisition et l'Observation de Formes Tridimensionnelles »

Supervised by David Fofi, Joaquim Salvi and Patrick Gorria

Carles Matabosch, 2007

Title: « Hand-Held 3D Scanner for Large Surface Reconstruction »

Supervised by Joaquim Salvi and David Fofi

David Fofi, 2001

Title: « Navigation d'un Véhicule Intelligent à l'aide d'un Capteur de Vision en Lumière Structurée et Codée »

Supervised by El Mustapha Mouaddib and Joaquim Salvi

III. Publications

International Journals

- "On the use of XML in medical imaging web-based applications", C.Mata, A.Oliver, A.Lalande, P.Walker, and J.Martí, IRBM, 38(1), pp 3-12, 2017
- "ProstateAnalyzer: web-based medical application for the management of prostate cancer using multiparametric MR images", C.Mata, P.Walker, A.Oliver, F.Brunotte, J.Martí, and A.Lalande, Informatics for Health & Social Care, 41(3), pp 286-306, 2016.
- "Automatic differentiation of melanoma from dysplastic nevi", M. Rastgoo, R. Garcia, O. Morel, F. Marzani, Computerized Medical Imaging and Graphics, vol. 43, pp.44-52, 2015
- "Computer-Aided Detection and Diagnosis for prostate cancer based on mono and multi-parametric MRI: A review". G. Lemaitre; R. Marti, J. Freixenet, JC. Vilanova, PM Walker, and F. Meriaudeau. Computers in Biology and Medicine, 60, pages 8-31, 2015
- "Supervised Learning Framework of Statistical Shape and Probability Priors for Automatic Prostate Segmentation in Ultrasound Images", Soumya GHOSE, Arnau OLIVER, Jhimli MITRA, Robert MARTÍ, Xavier LLADÓ, Jordi FREIXENET, Jordi FREIXENET, Jordi FREIXENET, Jordi FREIXENET, Dro Désiré SIDIBÉ, Josep COMET, Joan VILANOVA, Fabrice MERIAUDEAU, Medical Image Analysis, 2013.
- "Statistical shape and texture model of quadrature phase information for prostate segmentation", Soumya GHOSE, Arnau OLIVER, Robert MARTÍ, Xavier LLADÓ, Jordi FREIXENET, Jhimli MITRA, Joan C. VILANOVA, Josep COMET, Fabrice MERIAUDEAU, International Journal of Computer Assisted Radiology and Surgery, Vol. 7 (Issue 1), pp. 43-55, Heidelberg, Germany, Springer-Verlag, January 2012.
- "A spline-based non-linear diffeomorphism for multimodal prostate registration", Jhimli MITRA, Zoltan KATO, Robert MARTI, Arnau OLIVER, Xavier LLADÓ, Dro Désiré SIDIBÉ, Soumya GHOSE, Joan VILANOVA, Josep COMET, Fabrice MERIAUDEAU, Medical Image Analysis, 2012.
- "A Survey of Prostate Segmentation Methodologies in Ultrasound, Magnetic Resonance and Computed Tomography Images", Soumya GHOSE, Arnau OLIVER, Robert MARTI, Xavier LLADÓ, Joan VILANOVA, Jordi FREIXENET, Jhimli MITRA, Dro Désiré SIDIBÉ, Fabrice MERIAUDEAU, Computer Methods and Programs in Biomedicine, 2012.

- "Automatic Seed Placement for Breast Lesion Segmentation on US Images", Joan MASSICH, Fabrice MERIAUDEAU, Melcior SENTIS, Sergi GANAU, Elsa PEREZ, Robert MARTI, Arnau OLIVER, Joan MARTI, Breast Imaging, Springer, 2012.
- "B-splines Coupled with Quadrature Texture to Register Prostate Multimodal Images", Jhimli MITRA, Robert MARTÍ, Arnau OLIVER, Xavier LLADÓ, Soumya GHOSE, Joan VILANOVA, Fabrice MERIAUDEAU, International Journal of Computer Assisted Radiology and Surgery (2011)
- "Lesion Segmentation in Breast Sonography", Joan MASSICH, Fabrice MERIAUDEAU, Elsa PEREZ, Robert Marti, Arnau OLIVER, Joan MARTI, Digital Mammography, 2010.
- "Registration of Surfaces Minimizing Error Propagation for a One-Shot Multi-Slit Hand-Held Scanner", Carles MATABOSCH, David FOFI, Joaquim SALVI, Elisabet BATLLE, Pattern Recognition, 41 (6), pp. 2055-2067, Elsevier, June 2008.
- "A Review of Recent Range Image Registration Methods with Accuracy Evaluation", Joaquim SALVI, Carles MATABOSCH, David FOFI, Josep FOREST, Image and Vision Computing, 25 (5), pp. 578-596, Elsevier, May 2007.
- "Uncalibrated Reconstruction: An Adaptation to Structured Light Vision", David FOFI, Joaquim SALVI, El Mustapha MOUADDIB, Pattern Recognition, 36 (7), pp. 1631-1644, July 2003.

International Conferences

- "Benefits of a collaborative work in the evaluation of prostate cancer from MRI". C.Mata, P.Walker, A.Lalande, J.Martí, and A.Oliver. Annual Scientific Meeting of the European Society for Magnetic Resonance in Medicine and Biology. Barcelona, Spain. October 2017.
- Computer-Aided Detection for Prostate Cancer Detection based on Multi-Parametric Magnetic Resonance Imaging. G Lemaitre, R Martí, M Rastgoo, F Mériaudeau. EMBC 2017: 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Jul 2017, Jeju Island, South Korea.
- Normalization of T2W-MRI prostate images using Rician a priori. G. Lemaitre, M. Rastgoo, J. Massich, J. C. Vilanova, P. M. Walker, J. Freixenet, A. Meyer-Baese, F. Meriaudeau, and R. Marti. SPIE Medical Imaging. San Diego, USA. January 2016.
- A Boosting Approach for Prostate Cancer Detection using Multi-parametric MRI. G. Lemaitre, J. Massich, R. Marti, J. Freixenet, J. C. Vilanova, P. M. Walker, D. Sidibe, and F. Meriaudeau. International Conference on Quality Control and Artificial Vision. Le Creusot, France, June 2015.
- "SIFT texture description for understanding breast ultrasound images". J.Massich, F.Meriaudeau, M.Sentís, S.Ganau, E.Pérez, D.Puig, R.Martí, A.Oliver, and J.Martí. International Workshop on Breast Imaging, LNCS 8539, pp 681-688. Gifu, Japan. July 2014.
- "A Shape-based Statistical Method to Retrieve 2D TRUS-MR Slice Correspondence for Prostate Biopsy", Jhimli MITRA, Srikantha ABHILASH, Dro Désiré SIDIBÉ, Robert MARTI, Arnau OLIVER, Xavier LLADÓ, Soumya GHOSE, Joan VILANOVA, Josep COMET, Fabrice MERIAUDEAU, , (1-9), 8314 , pp. 83143M1-83143M9, San Diego, USA, SPIE Medical Imaging, February 2012.
- A hybrid framework of multiple active appearance models and global registration for 3D prostate segmentation in MRI.", Soumya GHOSE, Arnau OLIVER, Robert MARTI, Xavier LLADÓ, Jordi FREIXENET, Jhimli MITRA, Joan VILANOVA, Fabrice MERIAUDEAU, SPIE Medical Imaging, SPIE Medical Imaging États-Unis, 2012.
- "Weighted Likelihood Function of Multiple Statistical Parameters to Retrieve 2D TRUS-MR Slice Correspondence for Prostate Biopsy", Jhimli MITRA, Soumya GHOSE, Dro Désiré SIDIBÉ, Arnau OLIVER, Robert MARTI, Xavier LLADÓ, Joan C. VILANOVA, Josep COMET, Fabrice MERIAUDEAU, IEEE ICIP 2012, IEEE ICIP 2012 États-Unis, 2012.
- "A Coupled Schema of Probabilistic Atlas and Statistical Shape and Appearance Model for 3D Prostate Segmentation in MR Images", Soumya GHOSE, Jhimli MITRA, Arnau OLIVER, Robert MARTI, Xavier LLADÓ, Jordi FREIXENET, Joan VILANOVA, Dro Désiré SIDIBÉ, Fabrice MERIAUDEAU, IEEE ICIP 2012, : États-Unis, 2012.
- "Graph Cut Energy Minimization in a Probabilistic Learning Framework for 3D Prostate Segmentation in MRI", Soumya GHOSE, Jhimli MITRA, Arnau OLIVER, Robert MARTI, Xavier LLADÓ, Jordi FREIXENET,

- Joan C. VILANOVA, Dro Désiré SIDIBÉ, Fabrice MERIAUDEAU, IAPR International Conference on Pattern Recognition, Tsukba : Japon, 2012.
- "Spectral clustering to model deformations for fast multimodal prostate registration", Jhimli MITRA, Zoltan KATO, Soumya GHOSE, Dro Désiré SIDIBÉ, Robert MARTI, Xavier LLADÓ, Arnau OLIVER, Joan C. VILANOVA, Fabrice MERIAUDEAU, IAPR International Conference on Pattern Recognition, Tsukba : Japon, 2012.
 - Spectral Clustering of Shape and Probability Prior Models for Automatic Prostate Segmentation in Ultrasound Images", Soumya GHOSE, Jhimli MITRA, Arnau OLIVER, Robert MARTI, Xavier LLADÓ, Jordi FREIXENET, Joan C. VILANOVA, Josep COMET, Dro Désiré SIDIBÉ, Fabrice MERIAUDEAU, IEEE The Engineering in Medicine and Biology Conference, San Diego : États-Unis, 2012.
 - "A Mumford-Shah Functional based Variational Model with Contour, Shape, and Probability Prior information for Prostate Segmentation", Soumya GHOSE, Jhimli MITRA, Arnau OLIVER, Robert MARTI, Xavier LLADÓ, Jordi FREIXENET, Joan C. VILANOVA, Josep COMET, Dro Désiré SIDIBÉ, Fabrice MERIAUDEAU, IAPR International Conference on Pattern Recognition, Tsukba : Japon, 2012.
 - "Joint Probability of Shape and Image Similarities to Retrieve 2D TRUS-MR Slice Correspondence for Prostate Biopsy", Jhimli MITRA, Soumya GHOSE, Dro Désiré SIDIBÉ, Robert MARTI, Arnau OLIVER, Xavier LLADÓ, Joan VILANOVA, Josep COMET, Fabrice MERIAUDEAU, IEEE Conference of the Engineering in Medicine and Biology Society, San Diego : États-Unis, 2012.
 - "A Supervised Learning Framework for Automatic Prostate Segmentation in Trans Rectal Ultrasound Images", Soumya GHOSE, Jhimli MITRA, Arnau OLIVER, Robert MARTI, Xavier LLADÓ, Jordi FREIXENET, Joan C. VILANOVA, Josep COMET, Dro Désiré SIDIBÉ, Fabrice MERIAUDEAU, Advanced Concepts for Intelligent Vision Systems, Brno : Tchèque, République, 2012.
 - "Multiple Mean Models of Statistical Shape and Probability Priors for Automatic Prostate Segmentation", Soumya GHOSE, Arnau OLIVER, Robert MARTI, Xavier LLADÓ, Jordi FREIXENET, Jhimli MITRA, Joan C. VILANOVA, Josep COMET, Fabrice MERIAUDEAU, MICCAI Prostate Cancer Imaging, 6963 , pp. 35-46, Toronto, Canada, Springer LNCS, September 2011.
 - "A probabilistic framework for automatic prostate segmentation with a statistical model of shape and appearance", Soumya GHOSE, Arnau OLIVER, Robert MARTÍ, Xavier LLADÓ, Jordi FREIXENET, Joan VILANOVA, Fabrice MERIAUDEAU, IEEE International Conference on Image Processing, pp. 713-716, Brussels, Belgium, September 2011.
 - "Quadrature Filter Enhanced B-spline registration applied to prostate multimodal images", Jhimli MITRA, Robert MARTÍ, Arnau OLIVER, Xavier LLADÓ, Soumya GHOSE, Joan VILANOVA, Fabrice MERIAUDEAU, Proceedings of Computer Assisted Radiology and Surgery, Springer, Vol. 6 (Supplement 1), pp. S323-S324, Berlin, Germany, June 2011.
 - "Quadrature phase-based statistical shape and appearance model for prostate segmentation", Soumya GHOSE, Arnau OLIVER, Robert MARTÍ, Xavier LLADÓ, Jordi FREIXENET, Jhimli MITRA, Joan VILANOVA, Fabrice MERIAUDEAU, Proceedings of Computer Assisted Radiology and Surgery, Springer, Vol. 6 (Supplement 1), pp. S12-S16, Berlin, Germany, June 2011.
 - "Prostate Segmentation with Local Binary Patterns Guided Active Appearance Models", Soumya GHOSE, Arnau OLIVER, Robert MARTÍ, Xavier LLADÓ, Jordi FREIXENET, Joan C. VILANOVA, Fabrice MERIAUDEAU, SPIE Conference on Medical Imaging : Image Processing, 7962 , pp. 796218-796218-8, Lake Buena Vista, Orlando, Florida., USA, February 2011.
 - A comparison of thin-plate splines with automatic correspondences and b-splines with uniform grids for multimodal prostate registration", Jhimli MITRA, Robert MARTÍ, Arnau OLIVER, Xavier LLADÓ, Joan C. VILANOVA, Fabrice MERIAUDEAU, SPIE Medical Imaging, 7964 , pp. 79642T-1-8, Lake Buena Vista, Orlando, United States, February 2011.
 - "Statistical Shape and Probability Prior Model for Automatic Prostate Segmentation", Soumya GHOSE, Arnau OLIVER, Robert MARTI, Xavier LLADÓ, Jordi FREIXENET, Jhimli MITRA, Joan VILANOVA, Josep COMET, Fabrice MERIAUDEAU, IEEE International Conference on Digital Image Computing: Techniques and Applications (DICTA), DICTA Australie, 2011.
 - "A Non-linear Diffeomorphic Framework for Prostate Multimodal Registration", Jhimli MITRA, Zoltan KATO, Robert MARTI, Arnau OLIVER, Xavier LLADÓ, Soumya GHOSE, Joan VILANOVA, Fabrice

- MERIAUDEAU, DICTA, IEEE International Conference on Digital Image Computing: Techniques and Applications (DICTA) Australie, 2011.
- "Seed Selection Criteria for Breast Lesion Segmentation in Ultra-Sound Images", Joan MASSICH, Fabrice MERIAUDEAU, Elsa PEREZ, Robert MARTI, Arnau OLIVER, Joan MARTI, Workshop on Breast Image Analysis, MICCAI, Toronto, Canada, 2011.
 - "Prostate segmentation with Texture Enhanced Active Appearance Model", Soumya GHOSE, Arnau OLIVER, Robert MARTÍ, Xavier LLADÓ, Jordi FREIXENET, Joan C. VILANOVA, Fabrice MERIAUDEAU, IEEE International Conference on Signal-Image Technology & Internet-Based Systems, pp. 18-22, Kuala Lumpur, Malaysia, December 2010.
 - "Multimodal prostate registration using thin-plate splines from automatic correspondences", Jhimli MITRA, Arnau OLIVER, Robert MARTÍ, Xavier LLADÓ, Joan C. VILANOVA, Fabrice MERIAUDEAU, International Conference on Digital Image Computing: Techniques and Applications (DICTA), pp. 587-592, Sydney, Australia, Décembre 2010.
 - "A thin-plate spline based multimodal prostate registration with optimal correspondences", Jhimli MITRA, Arnau OLIVER, Robert MARTÍ, Xavier LLADÓ, Joan C. VILANOVA, Fabrice MERIAUDEAU, International Conference on Signal-Image Technology & Internet-Based Systems (SITIS), pp. 7-11, Kuala Lumpur, Malaysia, Décembre 2010.
 - "Texture Guided Active Appearance Model Propagation for Prostate Segmentation", Soumya GHOSE, Arnau OLIVER, Robert MARTÍ, Xavier LLADÓ, Jordi FREIXENET, Joan C. VILANOVA, Fabrice MERIAUDEAU, MICCAI Prostate Cancer Imaging, Vol. 6367 , pp. 111-120, Beijing, China, Springer LNCS, September 2010.
 - "Projector View Synthesis and Virtual Texturing", Thierry MOLINIER, David FOFI, Joaquim SALVI, Patrick GORRIA, Fabrice MERIAUDEAU, The 2nd International Topical Meeting on Optical Sensing and Artificial Vision, Saint-Petersburg, Russia, May 2008.
 - "2D Virtual Texture on 3D Real Object with Coded Structured Light", Thierry MOLINIER, David FOFI, Joaquim SALVI, Patrick GORRIA, SPIE Electronic Imaging - Image Processing: Machine Vision Applications, January 2008.
 - "Detection of Surfaces for Projection of Texture", Thierry MOLINIER, David FOFI, Patrick GORRIA, Joaquim SALVI, IEEE/SPIE 8th International Conference on Quality Control by Artificial Vision (QCAV'2007), Le Creusot , France, May 2007.
 - "A Variant of Point-to-Plane Registration Including Cycle Minimization", Carles MATABOSCH, Elisabet BATLLE, David FOFI, Joaquim SALVI, ISPRS Photogrammetric Computer Vision (PCV'2006), Bonn, Germany, September 2006.
 - "A Refined Range Image Registration Technique for Multi-stripe Laser Scanner", Carles MATABOSCH, Joaquim SALVI, David FOFI, Fabrice MERIAUDEAU, SPIE Electronic Imaging - Machine Vision Applications in Industrial Inspection XIV, San José, USA, January 2006.
 - "Registration of Moving Surfaces by means of One-Shot Laser Projection", Carles MATABOSCH, David FOFI, Joaquim SALVI, Josep FOREST, Lecture Notes in Computer Science (Proc. of IbPRIA'2005), 3522 , pp. 145-152, Springer-Verlag, June 2005.
 - "An adaptive structured light pattern for the 3D profiling of colored objects", Alexandra LATHUILIÈRE, J. PAGES, Joaquim SALVI, Franck MARZANI, Yvon VOISIN, International Conference on Imaging: Technology & Applications for the 21st Century, pp. 224-225, Beijing, Chine, May 2005.
 - "A New Proposal to Register Range Images", Carles MATABOSCH, Joaquim SALVI, David FOFI, 7th International Conference on Quality Control by Artificial Vision, Nagoya, Japan, May 2005.
 - "Range Image Fusion for Industrial Inspection", Carles MATABOSCH, Joaquim SALVI, David FOFI, Fabrice MERIAUDEAU, SPIE Electronic Imaging - Machine Vision Applications in Industrial Inspection XIII, San José, USA, January 2005.
 - "Segmentation et Décodage d'un Patron de Lumière Structurée", David FOFI, El Mustapha MOUADDIB, Joaquim SALVI, Troisièmes Journées d'Optique et de Traitement de l'Information, pp. 162-169, Kénitra, Maroc, Octobre 2002.
 - "How to Self-Calibrate a Structured Light Sensor?", David FOFI, El Mustapha MOUADDIB, Joaquim SALVI, 9th International Symposium on Intelligent Robotic System (SIRS), Toulouse, France, July 2001.

- "Uncalibrated Vision based on Structured Light", David FOFI, Joaquim SALVI, El Mustapha MOUADDIB, IEEE International Conference on Robotics and Automation (ICRA), Séoul, Corée, May 2001.
- "Euclidean Reconstruction by means of an Uncalibrated Structured Light Sensor", David FOFI, Joaquim SALVI, El Mustapha MOUADDIB, IAPR Vth Ibero-American Symposium on Pattern Recognition (SIARP), Lisbonne, Portugal, September 2000.

COLLABORATION BETWEEN UdG/UniCas

1. Erasmus mobility agreement.
2. Organization of the "Biomedical Imaging Applications" track at the International Conference on Image Analysis and Processing, Naples, September 2013. Joan Martí and Francesco Tortorella track chairs.
3. Lecture taken by F. Tortorella at UDG on Dec. 4th, 2013 "Learning from unbalanced data: detecting lesions in Medical imaging"
4. F. Tortorella member of the Ph.D. Committee for the defense of Joan Massich Vall at UDG (December 2013)
5. Joan Martí external reviewer of the Ph.D. thesis of Alessandro Bria at UNICLAM (January 2014)

COLLABORATION BETWEEN uB/UTP (associated partner)

Collaborations between uB and UTP in the field of MAIA

- Joint participation in Erasmus Mundus Action 3 project: EACOVIROE (2008-2011) coordinated by uB
- Joint Master program since 2012
- Student exchanges since 2009
- Visiting professors
- F. Meriaudeau was invited professor at UTP (2010,2012), D. Fofi (2015)
- Malik Saeed et N.M. Saad, M. Asaad were VIBOT (Erasmus Mundus Master) scholars at uB and UdG (Girona).
- F. Meriaudeau is the International External Evaluator for the EE dept at UTP since 2013.

PhD Student in Cotutelle :

- Vineet Nagrath (F. Mériaudeau (uB), O. Morel (uB), A. Malik Saeed (UTP), N.M. Saad (UTP) defended January 2015.
- Yasir Salih (F. Mériaudeau (uB), D. Sidibé (uB), A. Malik Saeed (UTP), N.M. Saad (UTP) defended in Mai 2015.
- Aamir Shahzad (F. Mériaudeau (uB), N.M. Saad (UTP), N. Walter (UTP), defended in june 2015.
- Mohamed Abul Hassan Mohaemd Ameen Mashood (D. Fofi, M. Malik Saeed, N.M Saad), defended in 2017.
- David Strubel (D. Fofi (uB), O. Morel (uB), N.M. Saad (UTP), defended in 2017.

Publications

Journals

- Hassan, Mohamed Abul; Malik, Aamir Saeed; Fofi, David; Saad, Naufal Mohamed; Ali, Yasir S; Meriaudeau, Fabrice; Video-based heartbeat rate measuring method using ballistocardiography, IEEE Sensors Journal, 17(14), pp:4544-4557, 2017
- Hassan, MA; Malik, AS; Fofi, D; Saad, N; Karasfi, B; Ali, YS; Meriaudeau, F; Heart rate estimation using facial video: a review, Biomedical Signal Processing and Control, 38, pp 346-360, 2017
- Hassan, MA; Malik, AS; Fofi, D; Saad, N; Meriaudeau, F; Novel health monitoring method using an RGB camera, Biomedical optics express, 8(11), pp: 4838-4854, 2017
- Nagrath, V.; Morel, O.; Malik, A.S.; Saad, N.M.; Meriaudeau, F. "Dynamic Electronic Institutions in HTM5 Meta Model for Agent Oriented Cloud Robotic Systems"
- Nagrath, V.; Morel, O.; Malik, A.S.; Saad, N.M.; Meriaudeau, F. "Peer to Peer Trade in HTM5 Meta Model for Agent Oriented Cloud Robotic Systems"
- Yasir Salih; Aamir S Malik, Desire Sidibé, Mohammed T Simsim, Mohammad N Saad, Fabrice Meriaudeau, "Compressed PFH Descriptor for Robust 3D Recognition"
- A Shahzad, MN Saad, N Walter, AS Malik, F Meriaudeau, "Hyperspectral venous image quality assessment for optimum illumination range selection based on skin tone characteristics" , Biomedical engineering online 13 (1), 109, 2014.
- A Shahzad, M Naufal Mohamad Saad, N Walter, A Saeed Malik, ." A Review on Subcutaneous Veins Localization Using Imaging Techniques", Current Medical Imaging Reviews 10 (2), 125-133, 2014.
- Nagrath, V.; Furler, L.; Malik, A.S.; Meriaudeau, F. "A Telepresence and Teleoperation Implementation on the Nao Humanoid Robotic Platform", International Journal of Communication Systems and Networks (IJCSN), 2013, VOLUME 2, ISSUE-1 EXTENDED VERSION OF CONFERENCE PAPER [4] AS REQUESTED BY THE JOURNAL
- Nagrath, V.; Meriaudeau, F.; Malik, A.S.; Morel, O. "Inter Agent flow of control parameters by Hyperactivity Mechanism", International Journal of Communication Systems

Conferences

- Strubel, David; Bastourous, Mark; Morel, Olivier; Saad, Naufal M; Fofi, David; Sub-optimal waypoints, UAV path planning and mosaicing application, IEEE International Conference on Ubiquitous Robots and Ambient Intelligence, 2016
- Hassan, Mohamed Abul; Malik, Garnir S; Saad, N; Karasfi, Babak; Ali, Yasir Salih; Fofi, David; Optimal source selection for image photoplethysmography, IEEE International Technology Conference Proceedings Instrumentation and Measurement, 2016
- Hassan, MA; Malik, Aamir S; Saad, N; Karasfi, Babak; Fofi, David; Sohail, Wafa; Towards health monitoring in visual surveillance, IEEE International Conference on Intelligent and Advanced Systems, 2016
- Hassan, Mohamed Abul; Malik, Aamir S; Saad, NM; Fofi, David; Evaluation metric for rate of background detection IEEE International Conference on Instrumentation and Measurement Technology, 2016
- Strubel, David; Morel, Olivier; Saad, Naufal M; Fofi, David; Evolutionary algorithm for positioning cameras networks mounted on UAV, IEEE Intelligent Vehicles Symposium (IV), 2017
- Hassan, MA; Malik, AS; Saad, N; Fofi, David; Meriaudeau, Fabrice; Effect of motion artifact on digital camera based heart rate measurement, IEEE International Conference Engineering in Medicine and Biology Society (EMBC), 2017
- Salih, Y. Malik, A.S. ; Sidibe, D. ; Simsim, M.T. ; Saad, N. ; Meriaudeau, F. "Compressed VFH descriptor for 3D object classification" , 3DTV-Conference: The True Vision - Capture, Transmission and Display of 3D Video (3DTV-CON), 2014.
- Y Salih, AS Malik, N Walter, D Sidibé, N Saad, F Meriaudeau, "Noise Robustness Analysis of Point Cloud Descriptors", Advanced Concepts for Intelligent Vision Systems, 68-79, 2013.
- Aamir Shahzad, Walter Nicolas, Aamir Saeed Malik, Mohamad Saad, Mohamad Naufal, Fabrice Meriaudeau , "Multispectral venous images analysis for optimum illumination selection", in IEEE ICIP 2013.
- Nagrath, V.; Morel, O.; Malik, A.S.; Saad, N.M.; Meriaudeau, F. "Agent driven Peer-to-Peer Cloud Robotics", Cloud Robotics Workshop, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS2013), Tokyo Big Sight, Japan, 3-9 November 2013
- Nagrath, V.; Morel, O.; Malik, A.S.; Saad, N.M.; Meriaudeau, F. "HTM5-Trade Model For Relationship Based Trade Modelling In Multi Agent Systems", Science and Information Conference (SAI), London, United Kingdom, 7-9 October 2013, On page(s): 188-196
- Furler, L.; Nagrath, V.; Malik, A.S.; Meriaudeau, F. "An Auto-Operated Telepresence System for the Nao Humanoid Robot", Communication Systems and Network Technologies (CSNT), 2013 International Conference on, On page(s): 262 - 267
- Nagrath, V.; Meriaudeau, F.; Malik, A.S.; Morel, O. "Introducing the Concept of Hyperactivity in Multi Agent Systems", Communication Systems and Network Technologies (CSNT), 2013 International Conference on, On page(s): 542 - 546
- Nagrath, V.; Meriaudeau, F.; Malik, A.S.; Morel, O. Agent Relation Charts (ARCs) for Modeling Cloud based transactions, Communication Systems and Network Technologies (CSNT), 2012 International Conference on, On page(s): 704 - 709

COLLABORATION BETWEEN UdG/Radboud (associated partner)

Collaborations between UdG and Radboud University

- 1 Joint PhD
- Participation in Assure Project
- Visiting professors

I. Joint Projects

ASSURE - Adapting Breast Cancer Screening Strategy Using Personalised Risk Estimation

- Coordinating institution: Radboud University
- Partners : University of Girona, among others
- 7th Framework Programme for Health Research
- Awarded in 2012

II. Joint PhD

Albert Gubern Mérida, 2015

Title: « Multi-atlas segmentation of breast MRI and lesion detection in DCE MRI»

Supervised by Robert Marti and Nico Karssemeijer

III. Publications

International Journals

- E.García, Y.Diez, O.Diaz, X.Lladó, A.Gubern-Mérida, R.Martí, J.Martí, and A.Oliver. Multimodal breast parenchymal patterns correlation using a patient-specific biomechanical model. *IEEE Trans. on Medical Imaging*, to appear, 2018.
- E.García, Y.Diez, O.Diaz, X.Lladó, R.Martí, J.Martí, and A.Oliver. A step-by-step review on patient-specific biomechanical finite elements models for breast MRI to X-ray mammography registration. *Medical Physics*, 45(1), pp e6-e31. 2018.
- E.García, O.Diaz, R.Martí, Y.Diez, A.Gubern-Mérida, M.Sentís, J.Martí, and A.Oliver Local breast density assessment using reacquired mammographic images. *European Journal of Radiology*, 93, pp 121-127, 2017.
- J.Schwaab, Y.Diez, A.Oliver, R.Martí, J.van Zelst, A.Gubern-Mérida, A.Bensouda Mourri, J.Gregori, M.Günther. Automated quality assessment in 3D breast ultrasound images. *Journal of Medical Imaging*, 3(2), 027002. 2016.
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COLLABORATION BETWEEN UniCas / Radboud (associated partner)

- Ph.D. students exchange:
 - Benedetta Savelli (UniCas) visiting at Radboud from October 2018 to March 2019
 - Jan-Jurre Mordang (Radboud) visiting at UniCas from February 2015 to June 2015
 - Alessandro Bria (UniCas) visiting at Radboud from October 2012 to February 2013
- Prof. Francesco Tortorella member of the Ph.D. Committee for the defense of Jan-Jurre Mordang at Radboud (2018)
- Prof. Nico Karssemeijer member of the Ph.D. Committee for the defense of Alessandro Bria at UniCas (2014)
- 4 journal publications, 7 conference publications

Journal publications

- Bria, A., Marrocco, C., Borges, L. R., Molinara, M., Marchesi, A., Mordang, J.-J., Karssemeijer, N., & Tortorella, F. (2018). Improving the automated detection of calcifications using adaptive variance stabilization. *IEEE Transactions on Medical Imaging*, 37(8), 1857-1864.
- Mordang, J.-J., Gubern-Mérida, A., Bria, A., Tortorella, F., Mann, R. M., Broeders, M. J. M., den Heeten, G.J., & Karssemeijer, N. (2018). The importance of early detection of calcifications associated with breast cancer in screening. *Breast Cancer Research and Treatment*, 167(2), 451-458.
- Mordang, J.-J., Gubern-Mérida, A., Bria, A., Tortorella, F., Den Heeten, G., & Karssemeijer, N. (2017). Improving computer-aided detection assistance in breast cancer screening by removal of obviously false-positive findings: *Medical Physics*, 44(4).
- Bria, A., Karssemeijer, N., & Tortorella, F. (2014). Learning from unbalanced data: A cascade-based approach for detecting clustered microcalcifications. *Medical Image Analysis*, 18(2), 241-252.

Conference publications

- Bria, A., Marrocco, C., Molinara, M., Savelli, B., Mordang, J.-J., Karssemeijer, N., & Tortorella, F. (2018). Improving the automated detection of calcifications by combining deep cascades and deep convolutional nets. Paper presented at the *Progress in Biomedical Optics and Imaging - Proceedings of SPIE*, 10718.
- Marrocco, C., Bria, A., Di Sano, V., Borges, L. R., Savelli, B., Molinara, M., Karssemeijer, N., & Tortorella, F. (2018). Mammogram denoising to improve the calcification detection performance of convolutional nets. Paper presented at the *Progress in Biomedical Optics and Imaging - Proceedings of SPIE*, 10718.
- Bria, A., Marrocco, C., Galdran, A., Campilho, A., Marchesi, A., Mordang, J.-J., Molinara, M., Karssemeijer, N., & Tortorella, F. (2017). Spatial Enhancement by Dehazing for Detection of Microcalcifications with Convolutional Nets. In *International Conference on Image Analysis and Processing* (pp. 288-298). Springer.
- Marchesi, A., Bria, A., Marrocco, C., Molinara, M., Mordang, J.-J., Tortorella, F., & Karssemeijer, N. (2017). The effect of mammogram preprocessing on microcalcification detection with convolutional neural networks. Paper presented at the *Proceedings - IEEE Symposium on Computer-Based Medical Systems*.
- Bria, A., Marrocco, C., Karssemeijer, N., Molinara, M., & Tortorella, F. (2016). Deep cascade classifiers to detect clusters of microcalcifications. In *International Workshop on Digital Mammography* (pp. 415-422). Springer.
- Bria, A., Marrocco, C., Mordang, J.-J., Karssemeijer, N., Molinara, M., & Tortorella, F. (2016). LUT-QNE: Look-up-table quantum noise equalization in digital mammograms. In *International Workshop on Digital Mammography* (pp. 27-34). Springer.
- Mordang, J.-J., Janssen, T., Bria, A., Kooi, T., Gubern-Mérida, A., & Karssemeijer, N. (2016). Automatic microcalcification detection in multi-vendor mammography using convolutional neural networks. In *International Workshop on Digital Mammography* (pp. 35-42). Springer.