2020

Articles in international peer-reviewed journals

  Defining Lagrangian coherent vortices from their trajectories
  Physics of Fluids, American Institute of Physics, 2020, HAL.

2019

Articles in international peer-reviewed journals

  Defining Lagrangian coherent vortices from their trajectories
  IEEE Transactions on Geoscience and Remote Sensing. IEEE Xplore, HAL.

  A Fourier approach to Lagrangian vortex detection
  Chaos, American Institute of Physics, 29, 093106. Link to Chaos, HAL.

- S. K. Maji, H. Yahia
  A Feature based Reconstruction Model for Fluorescence Microscopy Image Denoising
  Scientific Reports, Nature Publishing Group, 2019, 9 (1). Link to Nature Scientific Reports, HAL.

- G. Attuel, E. Gerasimova, F. Argoul, H. Yahia and A. Arnéodo
  Multifractal desynchronization of the cardiac excitable cell network during atrial fibrillation. II. Modeling
  Frontiers in Physiology. Link to Frontiers in Physiology article, HAL.

- A. El Aouni, K. Daoudi, H. Yahia, K. Minaoui, A. Benazzouz
  Surface mixing and biological activity in the North-West African upwelling
  Chaos, American Institute of Physics, 29 (1), pp 0111042018, 2019. HAL.

International peer-reviewed conferences
- • A. El Aouni et al.
  The contribution and influence of coherent mesoscale eddies off the North-West African Upwelling on the open ocean
  SIAM Conference on Mathematics of Planet Earth (MPE18).  [HAL](#).

Summer Institute on Network Physiology

- • G. Attuel, H. Yahia
  The fall of the reentry paradigm of cardiac fibrillation
  Second international Summer Institute on Network Physiology.  [Link to ISINP](#).  [HAL](#).

2018

Articles in international peer-reviewed journals

- • H. Yahia, V. Garçon, J. Sudre, C. Maes
  Effect of wind stress forcing on ocean dynamics at air-sea interface
  Frontiers of Information Technology & Electronic Engineering, 2018.  [HAL](#).

- • A. Tamim et al.
  Automatic Detection of Moroccan Coastal Upwelling Zones using Sea Surface Temperature Images

- • I. Hernandez-Carrasco, V. Garçon, J. Sudre, C. Garbe, H. Yahia
  Increasing the Resolution of Ocean pCO₂ Maps in the South Eastern Atlantic Ocean Merging Multifractal Satellite-Derived Ocean Variables
International peer-reviewed conferences

- • N. Brodu
  Low-rankness transfer for denoising Sentinel-1 SAR images
  ISIVC’2018 - 9th International Symposium on Signal, Image, Video and Communications, Nov 2018. [HAL]

  Search for filamentary accretion through low velocity shocks
  2018 Science for the Atacama Pathfinder Experiment (APEX). [HAL]

- • A. El Aouni, K. Daoudi, H. Yahia, K. Minaoui
  Coherent Vortex Detection from Particles Trajectories Analysis
  2018 SIAM Conference on Nonlinear Waves and Coherent Structures. [HAL]

- • A. El Aouni, K. Daoudi, H. Yahia, K. Minaoui
  Surface Mixing and Biological Activity in The North African Upwelling
  AGU Ocean Sciences Meeting 2018. [HAL]

- • G. S. Phartiyal, N. Brodu, D. Singh, H. Yahia
  A mixed spectral and spatial Convolutional Neural Network for Land Cover Classification using SAR and Optical data
  EGU General Assembly, Vienna, 2018. [HAL]

- • G. Li, K. Daoudi, J. Klemprir, J. Rusz
  Linear classification in speech-based objective differential diagnosis of Parkinsonism
  ICASSP'2018. [HAL]

2017

Articles in international peer-reviewed journals

- • J. A. Dijksman, N. Brodu, R. Behringer
  Refractive index matched scanning and detection of soft particles
  Review of Scientific Instruments, American Institute of Physics. [HAL]

- • G. Attuel et al.
  Multifractal desynchronization of the cardiac excitable cell network during atrial fibrillation. I. Multifractal analysis of clinical data
Frontiers in Physiology.  [Link to Frontiers in Physiology article](#)  [HAL](#)

- • N. Brodu
  Super-resolving multiresolution images with band-independant geometry of multispectral pixels

- • F. Frappart, L. Bourrel, N. Brodu, X. Salazar, F. Baup, J. Darrozes, R. Pombosa
  Monitoring of the Spatio-Temporal Dynamics of the Floods in the Guayas Watershed (Ecuadorian Pacific Coast) Using Global Monitoring ENVISAT ASAR Images and Rainfall Data

- • O. Yelekçi et al.
  Spatial and Seasonal Distributions of Frontal Activity over the French Continental Shelf in the Bay of Biscay
  Continental Shelf Research, Elsevier, 2017.  [HAL](#)

International peer-reviewed conferences

- • V. J.-L. Ralaiarisoa, A. Valance, N. Brodu, R. Delannay
  High speed confined granular flows down inclined: numerical simulations
  EPJ Web of Conferences, 2017.  [HAL](#)

- • A. El Aouni et al.
  Surface Mixing and Biological Activity in The North African Upwelling
  AGU Ocean Sciences Meeting 2018, Feb 2018, Portland, USA.  [HAL](#)

- • G. Attuel, H. Yahia
  Cardiac arrhythmias and Griffiths phase: desynchronization of excitable cells
  STATPHYS 26.  [HAL](#)

- • J. Sudre, H. Yahia, C. Maes, V. Garçon,
  Effect of wind stress forcing on ocean dynamics at Air-Sea Interface
  SOLAS Conference, 15-18 May 2017, Cargese.  [HAL](#)

2016

Book chapter
• G. Attuel, O. Pont, B. Xu, H. Yahia
  Sudden Cardiac Death and Turbulence

Articles in international peer-reviewed journals

• H. Badri, H. Yahia
  A Non-Local Low-Rank Approach to Enforce Integrability
  IEEE Transactions on Image Processing, 2016. [HAL](#).

• H. Badri, H. Yahia, D. Aboutajdine
  Low-Rankness Transfer for Realistic Denoising
  IEEE Transactions on Image Processing, 2016. [HAL](#).

• S. Kumar Maji, H. Yahia, T. Fusco
  A Multifractal-based Wavefront Phase Estimation Technique for Ground-based Astronomical Observations
  IEEE Transactions on Geoscience and Remote Sensing, 2016. [HAL](#).

International peer-reviewed conferences

• A. Garg et al.
  A novel approach for optimal weight factor of DT-CWT coefficients for land cover classification using MODIS data
  Geoscience and Remote Sensing Symposium (IGARSS), 2016 IEEE International, Beijing, China. [HAL](#).

• O. Pont et al.
  Complexity in Electrophysiological Dynamics. Emergence and measures of organization
  2nd BCAM Workshop on Nonlinear Dynamics in Biological Systems, September 2016, Bilbao, Spain. [HAL](#).

• A. El Aouni et al.
  An improved method for accurate computation of coastal upwelling index using Sea Surface Temperature Images
AICCSA 2016. HAL

- •A. El Aouni et al.
  Detection of Moroccan coastal upwelling using sea surface chlorophyll concentration
  AICCSA 2015. HAL

- •N. Brodu, D. Singh, A. Garg
  A sub-pixel resolution enhancement model for multiple-resolution multispectral images
  European Geophysical Union General Assembly 2016, Apr 2016, Vienne, Austria. 2016 . HAL

- •L. Bourrel, N. Brodu, F. Frappart
  Land cover in the Guayas Basin using SAR images from low resolution ASAR Global mode to high resolution Sentinel-1 images
  European Geophysical Union General Assembly 2016, Apr 2016, Vienne, Austria. 2016 . HAL

- •G. Rosi et al.
  Caractérisation de la Réponse Ultrasonore d'Implant Dentaire : Simulation Numérique et Analyse des Signaux
  Congrès Français d'Acoustique 2016, Le Mans. HAL

- •Z. Galaz et al.
  Degree of Parkinson's Disease Severity Estimation Based on Speech Signal Processing
  IEEE 39th International Conference on Telecommunications and Signal Processing, Jun 2016, Vienna, Austria . HAL

- •K. Daoudi, N. Brodu, J. Rusz, J. Klempir
  Objective discrimination between Progressive Supranuclear Palsy and Multiple System Atrophy using speech analysis
  38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (IEEE-EMBC’16), Aug 2016, Orlando, United States . HAL

- •A. Garg, N. Brodu, H. Yahia, D. Singh
  An Approach to optimize the fusion coefficients for land cover information enhancement with multisensor data
  EGU General Assembly 2016, session: Thermo-hydro-mechanical couplings and deep geothermal energy, 2016. HAL

- •H. Yahia et al.
  General methodology for the derivation of high resolution oceanic data through information fusion at different scales
  ESA Living Planet Symposium, 2016. HAL
- G. Attuel, H. Yahia
  The role of abnormal inhibitory transmission at the gap junctions of cardiac cells in fibrillation
  Physical Principles of Biological and Active Systems, IOP Institute of Physics, Topical Meeting Edinburgh, United Kingdom, January 2016. [HAL].

- O. Yelekçi et al.
  Wintertime Submesoscale River Plumes in the Bay of Biscay

- J. Sudre, H. Yahia, O. Pont and V. Garçon
  How to obtain ocean turbulent dynamics at super resolution from optimal multiresolution analysis and multiplicative cascade?

- O. Yelekçi et al.
  Spatial and Seasonal Distributions of Frontal Activity over the Continental Shelf in the Bay of Biscay, Focus on Density Fronts in Winter
  AGU Ocean Science Meeting, New Orleans, 21-26 February 2016. [HAL].

Invited sessions

- H. Badri, H. Yahia
  Non-convex sparsity. Applications in Image processing.
  IEEE ICCS 2016, Roorkee, India.

- N. Brodu
  Super-resolving multiresolution images with band-independent geometry of multispectral pixels.
  IEEE ICCS 2016, Roorkee, India. [HAL].

Arxiv

- B. Xu, R. Dubois, O. Pont, H. Yahia
Nonlinear trend removal should be carefully performed in heart rate variability analysis
Arxiv, 2016. HAL

2015

PhD thesis

- •H. Badri
   Sparse and Scale-Invariant Methods in Image Processing
defended December 1st, 2015. HAL

- •A. Tamim
   Segmentation et classification des images satellitaires : application à la détection des zones d’upwelling côtier marocain et mise en place d’un applicatif de suivi spatio-temporel
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Book chapter

- •S. Jacquir, B. Xu, S. Binczak, J.-M. Bilbault
  Détection d’anomalie dans les signaux physiologiques
  in N. Glade & A. Stéphanou (dir.) Le vivant critique et chaotique, Editions Matériologiques, collection “Modélisations Simulations Systèmes Complexes"
  HAL

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- •J. Sudre, H. Yahia, O. Pont, V. Garçon
  Ocean Turbulent Dynamics at Superresolution From Optimal Multiresolution Analysis and Multiplicative Cascade

- N. Brodu, J. A. Dijksman, R. P. Behringer
  Spanning the scales of granular materials through microscopic force imaging
  Nature Communications, 2015. HAL.

- I. Hernandez-Carrasco et al.
  Reconstruction of super-resolution fields of ocean pCO2 and air-sea fluxes of CO2 from satellite imagery in the Southeastern Atlantic
  Biogeosciences, 2015. HAL.

- H. Badri, H. Yahia, D. Aboutajdine
  Fast Edge-Aware Processing via First Order Proximal Approximation

  Detection of Moroccan coastal upwelling fronts in SST images using the microcanonical multiscale formalism
  Pattern Recognition Letters, 55, 2015. HAL.

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- H. Yahia et al.
  General methodology for the derivation of high resolution oceanic data through information fusion at different scales
  ESA Living Planet Symposium, Prague, Czech Republic 2016. HAL.

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  The 8th International Conference (CHAOS2015) on Chaotic Modeling, Simulation and Applications, Paris, France 2015. HAL.

- B. Xu, S. Jaquir, S. Binczak, H. Yahia, R. Dubois
  Classification of Cardiac Arrhythmia in vitro based on Multivariate Complexity Analysis
  Computing in Cardiology 2015. HAL.

  Spatial and Seasonal Distributions of Frontal Activity over the French continental shelf in the Bay of Biscay observed from satellite Sea Surface Temperature
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- A. Tamim, K. Minaoui, K. Daoudi, A. Atillah, D. Aboutajdine
  Detection of Moroccan Coastal Upwelling in SST images using the Expectation-Maximization
  10th International Symposium on Visual Computing (ISVC'14), 2014. HAL.

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- A. Tamim, K. Minaoui, K. Daoudi, H. Yahia, A. Atillah, D. Aboutajdine
  An Efficient Tool for Automatic Delimitation of Moroccan Coastal Upwelling Using SST Images

- B. Xu, S. Jacquir, G. Laurent, S. Binczak, O. Pont, H. Yahia
  In vitro arrhythmia generation by mild hypothermia - a pitchfork bifurcation type process
  Physiological Measurement, 2014. HAL.

- V. Khanagha, K. Daoudi, O. Pont, H. Yahia
  Phonetic segmentation of speech signal using local singularity analysis
  Digital Signal Processing, Elsevier, 2014. HAL.

- V. Khanagha, K. Daoudi, H. Yahia
  Detection of Glottal Closure Instants based on the Microcanonical Multiscale Formalism
  IEEE Transactions on Audio, Speech and Language Processing, 2014. HAL.

- B. Xu, S. Jacquir, G. Laurent, J.-M. Bilbault, S. Binczak
  Analysis of an experimental model of in vitro cardiac tissue using phase space reconstruction
  Biomedical Signal Processing & Control, 2014. HAL.

International peer-reviewed conferences
- • N. Brodu  
  Approaches for automated feature detection  
  9th IEEE International Conference on Industrial and Information Systems (ICIIS2014), Gwalior, India 2014. [HAL](hal).

- • H. Badri, H. Yahia  
  Handling noise in image deconvolution with local/non-local priors  
  ICIP 2014. [HAL](hal).

- • N. Brodu, J. Dijksman, R. Behringer  
  Quantitative DEM of dense granular packings with a multiple contacts force model  
  Modeling Granular Media Across Scales 2014. [HAL](hal) [Web site](web).

- • I. Hernandez-Carrasco et al.  
  Validation of inferred high resolution ocean pCO2 and air-sea fluxes with in-situ and remote sensing data.  
  Earth Observation for Ocean-Atmosphere Interactions Science 2014 ESA-ESRIN 2014. [HAL](hal).

- • A. Garg, S. Vardan Naidu, H. Yahia, D. Singh  
  Wavelet Based Resolution Enhancement for Low Resolution Satellite Images  
  IEEE ICIIS2014. [HAL](hal).

- • O. Pont  
  Singularity analysis: a method for properly characterizing complexity in cardiodynamics  
  International Conference on Complex Systems and Applications ICCSA2014. [HAL](hal) [Web site](web).

- • K. Daoudi, B. Bertrac  
  On classification between normal and pathological voices using the MEEI-KayPENTAX database: Issues and consequences  
  Interspeech 2014. [HAL](hal).

- • H. Badri, H. Yahia, K. Daoudi  
  Fast and Accurate Texture Recognition with Multilayer Convolution and Multifractal Analysis  
  ECCV 2014. [HAL](hal).
- • H. Badri, H. Yahia, D. Aboutajdine
  Robust surface reconstruction via triple sparsity
  CVPR, 2014. [HAL](#).

- • A. Tamim, K. Minaoui, K. Daoudi, A. Atillah, H. Yahia, D. Aboutajdine
  An Efficient Tool for Automatic Delimitation of Moroccan Coastal Upwelling Using SST Images
  ISIVC, Marrakech, Morroco, 2014. [HAL](#).

- • A. Tamim, K. Minaoui, K. Daoudi, A. Atillah, D. Aboutajdine
  On Detectability of Moroccan Coastal Upwelling in Sea Surface Temperature Satellite Images
  ISVC, Las Vegas, USA, 2014. [HAL](#).

- • B. Xu, S. Binczak, S. Jacquir, O. Pont, H. Yahia
  Parameters Analysis of FitzHugh-Nagumo Model for a Reliable Simulation
  36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC’14) 2014. [HAL](#).

- • O. Pont, B. Xu
  Cardiodynamic Complexity: Electrocardiographic Characterization of Arrhythmic Foci
  22nd International Conference on Nonlinear Dynamics of Electronic Systems 2014. [HAL](#).

- • S. Kumar Maji, T. Fusco, H. Yahia
  Cross-scale inference and wavefront reconstruction

- • K. Daoudi, S. Mrad
  A novel nonlinear approach to speech perturbation measure for pathological voice classification
  IEEE 22nd Pacific Voice Conference, 2014. [HAL](#).

- • A. Tamim et al.
  A Simple Tool for Automatic Extraction of Moroccan Coastal Upwelling from Sea Surface Temperature Images
  SITA’14 - 9th International Conference on Intelligent Systems: Theories and Applications 2014. [HAL](#).

- • B. Xu, S. Binczak, S. Jaquir, O. Pont, H. Yahia
  Complexity analysis of experimental cardiac arrhythmia
  IEEE Tensymp, 2014. [HAL. Best paper award](#).
  Observing submesoscale activity in the Bay of Biscay with satellite-derived SST and Chlorophyll concentration
  [HAL](#)

- I. Hernandez-Carrasco et al.
  Inference of super-resolution ocean pCO2 and air-sea CO2 fluxes from non-linear and multiscale processing methods
  [HAL](#)

- B. Xu, S. Jacquir, S. Binczak, J.-M. Bilbault
  Phase Space Reconstruction of an Experimental Cardiac Electrical Signal
  ICCSA 2014 : 4th International Conference on Complex Systems and Applications 2014
  [HAL](#)

Invited sessions papers

- H. Yahia
  Edges, transitions, criticality: novel nonlinear characterizations of low-level transition features in signal processing and applications to cross-scale inference in complex signals
  ISIVC 2014.

National peer-reviewed conferences

- J.-M. Bilbault, S. Jacquir, B. Xu, G. Laurent, S. Binczak
  Dynamical analysis for an in vitro model signal
  34ème Séminaire de la Société Francophone de Biologie Théorique 2013,
  [HAL](#)

Web site
- • N. Brodu, J. Dijksman, R. Behringer
  Structure and forces in stressed 3D packings

2013

Articles in international peer-reviewed journals

- • S. K. Maji, H. Yahia
  Edges, Transitions and Criticality
  Pattern Recognition 47(6) 2104-2115, Elsevier, June 2014. HAL. Direct access.

- • S. K. Maji, H. Yahia, H. Badri
  Reconstructing an image from its edge representation
  Digital Signal Processing, Elsevier, 2013. HAL.

- • V. Khanagha, K. Daoudi, O. Pont, H. Yahia, A. Turiel
  Non-linear speech representation based on local predictability exponents
  Neurocomputing, Elsevier, 2013. HAL.

International peer-reviewed conferences

- • H. Badri, H. Yahia, D. Aboutajdine
  Fast Multi-Scale Detail Decomposition via Accelerated Iterative Shrinkage
  SIGGRAPH ASIA, 2013. HAL. ACM Digital Library.

- • O. Pont, B. Xu
  Characterizing Complexity of Atrial Arrhythmias through Effective Dynamics from Electric Potential Measures
  Computing in Cardiology, 2013. HAL.

- • R. Jourani, K. Daoudi, R. André-Obrecht and D. Aboutajdine
  Combination of SVM and Large Margin GMM modeling for speaker identification
  Eusipco, 2013. HAL.
- M. Al Mashry, N. Bouguila and K. Daoudi
  A statistical framework for positive data clustering with feature selection: application to object detection
  Eusipco, 2013. [HAL](#).

  A simple and efficient approach for coarse segmentation of moroccan coastal upwelling
  Eusipco, 2013. [HAL](#).

- B. Xu, O. Pont, G. Laurent, S. Jacquir, S. Binczak, H. Yahia
  Experimental study of arrhythmia due to mild therapeutic hypothermia after resuscitation of cardiac arrest
  Computing in Cardiology, 2013. [HAL](#).

- J. Sudre, H. Yahia, V. Garçon
  Analyse multi-résolution opérée sur des exposants de singularité en formalisme microcanonique: détermination de la dynamique océanique et des échanges océan/atmosphère submésoéchelle
  [HAL](#).

- B. Xu, S. Jacquir, G. Laurent, J.-M. Bilbault, S. Binczak
  Phase space reconstruction of an experimental model of cardiac field potential in normal and arrhythmic conditions

- J. Sudre, H. Yahia, O. Pont, C. Pottier, C. Maes, V. Garçon
  Validation of high and super resolution ocean dynamics products

- V. Khanagha, K. Daoudi
  Efficient GCI detection for efficient sparse linear prediction
  Non-Linear Speech Processing (NOLISP 2013), June 19-21, Mons, Belgium, 2013. [HAL](#).

- B. Xu, S. Jacquir, O. Pont, H. Yahia
  Cardiac arrhythmia induced by hypothermia in a cardiac model in vitro
Invited sessions papers

- • O. Pont, H. Yahia, B. Xu
  Arrhythmic dynamics from singularity analysis of electrocardiographic maps

- • H. Yahia, D. Singh
  Advanced nonlinear approaches for handling complex datasets and acquisitions in Earth Observations and Universe Sciences
  India-CEFIPRA workshop in ICST “Challenges in overcoming complexity, from big data to cyberphysical systems”, April 4 - 5, 2013, New Delhi- India, Bhagirathi Building - IIT Delhi . HAL .

National peer-reviewed conferences

- • B. Xu, O. Pont, G. Laurent, S. Jacquir, S. Binczak, H. Yahia
  Arrhythmia due to mild therapeutic hypothermia - a study in vitro
  LIRYC Workshop, 2013, HAL .

- • O. Pont, B. Xu, H. Yahia
  Complexity in cardiodynamics - where arrhythmias emerge and measures of organization
  LIRYC Workshop, 2013, HAL .

Doctoral thesis (PhDs)
- • V. Khanagha  
  **Novel Multiscale Methods for Nonlinear Speech Analysis**  
  Bordeaux 1 University, 2013. [pdf](#)  Archive ouverte TEL.  

- • S. Kumar Maji  
  **Multiscale Methods in Signal Processing for Adaptive Optics**  
  Bordeaux 1 University, 2013. [pdf](#)  Archive ouverte TEL.  

- • J. Sudre  
  **Circulation submésoéchelle et comportements des prédateurs marins supérieurs : Apport de l’analyse multi-échelles et multi-capteurs**  
  Toulouse, Université de Toulouse III Paul Sabatier, 2013.  Archive ouverte TEL.  

### Reports

- • N. Vinuesa  
  Internship report  [HAL](#)  .  

- • B. Bertrac  
  Internship report  [HAL](#)  .  

- • S. Mrad  
  Internship report  [HAL](#)  .  

### 2012

#### Articles in international peer-reviewed journals

- • O. Pont, A. Turiel, H. Yahia  
  **Singularity analysis of digital signals through the evaluation of their Unpredictable Point Manifold**  

- • R. Jourani, K. Daoudi, R. André-Obrecht, D. Aboutajdine  
  **Discriminative speaker recognition using Large Margin GMM**  
  [Archive ouverte TEL](#)  .

- • V. Khanagha, K. Daoudi  
  An Efficient Solution to Sparse Linear Prediction Analysis of Speech  

- • O. Pont, M. Haïssaïguerre, H. Yahia, N. Derval, M. Hocini  
  Microcanonical processing methodology for ECG and intracardial potential: application to atrial fibrillation  
  Transactions on Mass-Data Analysis of Images and Signals (ISSN:1868-6451), 4(1), 2012.  

International peer-reviewed conferences

- • O. Pont, H. Yahia, R. Dubois, M. Haissaguerre  
  A Singularity-analysis Approach to characterize Epicardial Electric Potential  

- • S. K. Maji, O. Pont, H. Yahia, J. Sudre  
  Inferring Information across Scales in Acquired Complex Signals  

- • V. Khanagha, K. Daoudi  
  Efficient multipulse approximation of speech excitation using the most singular manifold  
  Interspeech 2012, Portland, USA.  

- • S. K. Maji, H. Yahia, O. Pont, J. Sudre, T. Fusco, V. Michau  
  Towards Multiscale Reconstruction of Perturbated Phase from Hartmann-Shack Acquisitions  

- • C. Garbe et al.  
  Climatically-active gases in the Eastern Boundary Upwelling and Oxygen Minimum Zone (OMZ) systems  
- C. Garbe et al.  
Climatically-active gases in the Eastern Boundary Upwelling and Oxygen Minimum Zone (OMZ) systems  
European Geophysical Union, general assembly, EGU 2012, Vienna, Austria.  [HAL](#)  

- J. Sudre, H. Yahia, O. Pont, C. Pottier, C. Maes, V. Garçon  
Towards high-resolution mapping of ocean dynamics: multiscale fusion between low-resolution altimetry and high resolution sst  
GlobCurrents, Needs for Ocean Surface Current Data from Space, ESA DUE GlobCurrent User Consultation meeting Agenda, ESA Ifremer, March 7-9 2012, Brest, France  [pdf](#)  [HAL](#)  

- O. Pont, H. Yahia, R. Dubois  
Microcanonical multifractal analysis of electric potential maps on the heart surface  
FisEs 2012.  [pdf](#)  [HAL](#)  

National peer-reviewed conference  

- O. Pont  
Analyse multiéchelles du potentiel électrique épicardique  
Biologie, Médecine et Systèmes Complexes, Rencontres du GdR "Dynamique et Contrôle des Systèmes Complexes" (DYCOEC) en partenariat avec le GdR "STIC-Santé", Rouen, 26-28 Novembre 2012.  [HAL](#)  

Invited speaker sessions  

- H. Yahia, J. Sudre, V. Garçon, C. Pottier  
High-Resolution Ocean Dynamics from Microcanonical Formulations in Nonlinear Complex Signal Analysis  
European Geosciences Union General Assembly (EGU), Vienna, Austria, April
22-27, 2012  Session NP3.1 "Nonlinear, scaling and Complex Physical and Biogeophysical Processes in the Atmosphere and Ocean".  

EGU 2012 web site session - HAL  

Report  

- • H. Badri  
  Informatique graphique dans le domaine du gradient et formalisme des systèmes reconstructibles  
  Internship report.  HAL  

Doctoral thesis (PhD)  

- • R. Jourani  
  Reconnaissance automatique du locuteur par des GMM à grande marge  
  Université de Rabat, 2012.  Archive ouverte TEL  

2011  

Article in international peer-reviewed journal  

- • O. Pont, A. Turiel, C. Perez-Vicente  
  On Optimal Wavelet Bases for the Realization of Microcanonical Cascade Processes  
  HAL
International peer-reviewed conferences

- • V. Khanagha, H. Yahia, K. Daoudi, O. Pont, A. Turiel
  Reconstruction of Speech Signals from their Unpredictable Points Manifold
  NoLISP 2011 (Non-Linear Speech Processing) Conference, Las Palmas, 07-09
  November 2011. Published in the Springer LNAI (Lectures Notes on Artificial Intelligence)
  proceedings, Advances in Nonlinear Speech Processing, Lectures Notes in Computer Science,
  Link to Springer on-line version.

- • K. Daoudi, R. Jourani, R. André-Obrecht, D. Aboutajdine
  Speaker identification using discriminative learning of large margin GMM
  ICONIP 2011 (2011 International Conference on Neural Information Processing)
  November 14-17, 2011, Shanghai, China. Published in LNCS, vol. 7063, pp. 300-307,
  Springer Verlag.

- • R. Jourani, K. Daoudi, R. André-Obrecht, D. Aboutajdine
  Fast Training of Large Margin Diagonal Gaussian Mixture Models for Speaker
  Identification
  SpeD 2011 (6th Conference on Speech Technology and Human-Computer Dialogue)
  2011. HAL.

- • R. Jourani, K. Daoudi, R. André-Obrecht, D. Aboutajdine
  Speaker Verification using Large Margin GMM Discriminative Training
  ICMCS (International Conference on Multimedia Computing and Systems) 2011. HAL.

- • O. Pont, M. Haissaguerre, H. Yahia, N. Derval, M. Hocini
  A Microcanonical Multifractal Approach to the Characterization of Heartbeat
  Dynamics
  FisEs 2011, June 2011, Barcelona, Spain. HAL.

- • M. Al Mashrgy, N. Bouguila, K. Daoudi
  A robust approach for multivariate binary vectors clustering and feature selection
ICONIP 2011 (2011 International Conference on Neural Information Processing)  
November 14-17, 2011, Shanghai, China  
- S. Kumar Maji, H. Yahia, O. Pont, T. Fusco, V. Michau, J. Sudre  
  A multiscale approach to phase reconstruction for Adaptive Optics  
  IEEE 2011 10th International Workshop on Electronics, Control, Measurement and  
  Signals (ECMS 2011), June 1-3, 2011, Liberec, Czech Republic  
  HAL  
  IEEEExplore

- J. Winebarger, K. Daoudi, H. Yahia  
  Improving SVF with DISTBIC for phoneme segmentation  
  SPECOM'2011, Speech and Computer, XIV International Conference, September  
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