2020

EGU General Assembly 2020 (Web site)

- • F. Schmitt, H. Yahia, J. Sudre, V. Garçon, G. Charria, B. Dewitte
  Scaling and anisotropic heterogeneities of ocean SST images from satellite data
  EGU 2020 Session NP2.1 ”Nonlinear Multiscale and Stochastic Dynamics of the
  Earth System” . HAL .

- • G. Charria, S. Theetten, A. Ayouche, C. Poppeschi, J. Sudre, H. Yahia, V. Garçon
  Multi-scale coastal surface temperature in the Bay of Biscay and the English
  Channel
  EGU 2020 Session NP2.1 ”Nonlinear Multiscale and Stochastic Dynamics of the
  Earth System” . HAL .

PhD thesis

- • A. El Aouni
  Lagrangian coherent structures and physical processes of coastal upwelling
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Articles in international peer-reviewed journals

- • A. El Aouni et. al.
  Robust Detection of the North-West African Upwelling From SST Images

- • J. Barès, N. Brodu, H. Zheng, J. A. Dijksman
  Transparent experiments: releasing data from mechanical tests on three dimensional
  hydrogel sphere packings

- • S. K. Maji, R. K. Thakur, H. Yahia
  Structure-preserving denoising of SAR images using multifractal feature analysis

- • A. El Aouni, K. Daoudi, H. Yahia, S. K. Maji, K. Minaoui
Define Lagrangian coherent vortices from their trajectories
Physics of Fluids, American Institute of Physics, 2020, [HAL].

2019

Articles in international peer-reviewed journals

- • A. El Aouni, V. Garçon, J. Sudre, H. Yahia, K. Daoudi, K. Minaoui
  Physical and Biological Satellite Observations of the Northwest African Upwelling: Spatial Extent and Dynamics
  IEEE Transactions on Geoscience and Remote Sensing. [IEEE Xplore], [HAL].

- • A. El Aouni, H. Yahia, K. Daoudi, K. Minaoui
  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

  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

- • G. Li, K. Daoudi, J. Klempir, 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
  in Ferdinand Verhulst & Christos H. Skiadas Eds. The Foundations of Chaos

Articles in international peer-reviewed journals

- H. Badri, H. Yahia  
  A Non-Local Low-Rank Approach to Enforce Integrability  

- H. Badri, H. Yahia, D. Aboutajdine  
  Low-Rankness Transfer for Realistic Denoising  

- S. Kumar Maji, H. Yahia, T. Fusco  
  A Multifractal-based Wavefront Phase Estimation Technique for Ground-based Astronomical Observations  

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  

- 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.  

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

- A. El Aouni et al.  
  Detection of Moroccan coastal upwelling using sea surface chlorophyll
concentration
AICCSA 2015.  [HAL](#).

- N. Brodù, 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. Brodù, 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](#).

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  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. Brodù, 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. Brodù, 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].
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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
defended September 22, 2015. [HAL](#).

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.
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  ESA Living Planet Symposium, Prague, Czech Republic 2016. HAL.

- G. Attuel, O. Pont, B. Xu, H. Yahia
  Sudden cardiac death and Turbulence
  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
- A. Tamim, K. Minaoui, K. Daoudi, A. Atillah, D. Aboutajdine  
  Detection of Moroccan Coastal Upwelling in SST images using the Expectation-Maximization  

2014

Articles in international peer-reviewed journals

- 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  
- V. Khanagha, K. Daoudi, O. Pont, H. Yahia  
  Phonetic segmentation of speech signal using local singularity analysis  
- 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.  
- 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.  

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

- • H. Badri, H. Yahia
  Handling noise in image deconvolution with local/non-local priors
  ICIP 2014. 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. Web site

- • 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

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

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

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

- • H. Badri, H. Yahia, K. Daoudi
  Fast and Accurate Texture Recognition with Multilayer Convolution and Multifractal Analysis
  ECCV 2014. 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**
- I. Hernandez-Carrasco et al.
  Inference of super-resolution ocean pCO2 and air-sea CO2 fluxes from non-linear and multiscale processing methods

- B. Xu, S. Jacquir, S. Binczak, J.-M. Bilbault
  Phase Space Reconstruction of an Experimental Cardiac Electrical Signal
  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 Mashrgy, 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 multirésolution opérée sur des exposants de singularité en formalisme microcanonique: détermination de la dynamique océanique et des échanges océan/atmosphère submésoéchelle
  XXIVe Colloque Gretsi - Traitemet du Signal et des Images - Brest - 3 au 6 Sept 2013. [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
  40th International Congress on Electrocardiology (ICE 2013), Glasgow, UK, 2013. [HAL]·

[Direct access]
Invited sessions papers

- • O. Pont, H. Yahia, B. Xu
  Arrythmic 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
- V. Khanagha, K. Daoudi
  An Efficient Solution to Sparse Linear Prediction Analysis of Speech
  EURASIP Journal on Audio, Speech, and Music Processing, 2012.  [pdf]  [HAL].

- O. Pont, M. Haissaïguerre, 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  [HAL].

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
  European Conference on Complex Systems, ECCS’12, Brussels, 2012, Springer
  Proceedings in Complexity, ISSN 2213-8684  [HAL].

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

- S. K. Maji, H. Yahia, O. Pont, J. Sudre, T. Fusco, V. Michau
  Towards Multiscale Reconstruction of Perturbated Phase from Hartmann-Shack
  Acquisitions
  IEEE NASA/ESA Conference on Adaptive Hardware and Systems (AHS-2012)  [HAL].
  [pdf].

- 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".
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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, vol. 7015,
  Link to Springer on-line version.
  HAL

- 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.
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- R. Jourani, K. Daoudi, R. André-Obrecht, D. Aboutajdine
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  A robust approach for multivariate binary vectors clustering and feature selection
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- S. Kumar Maji, H. Yahia, O. Pont, T. Fusco, V. Michau, J. Sudre
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- O. Pont, M. Haissaguerre, H. Yahia, N. Derval, M. Hocini
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- H. Kumar, H. Yahia, D. Singh
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  19th European Signal Processing Conference, August 29-September 2, 2011, Barcelona, Spain

- O. Pont, M. Haissaguerre, H. Yahia, N. Derval and M. Hocini
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- O. Pont, A. Turiel, H. Yahia
  An optimized algorithm for the evaluation of local singularity exponents in digital signals
  14th International Workshop on Combinatorial Image Analysis (IWCIA 2011), May 23-25, Madrid, Spain

- V. Khanagha, K. Daoudi, O. Pont, H. Yahia
  Improving text-independent phonetic segmentation based on the microcanonical multiscale formalism
2011 International Conference on Acoustics, Speech and Signal Processing (ICASSP 2011), May 22-27, Prague, Czech Republic. [HAL]

- J. Sudre, H. Yahia, O. Pont, C. Pottier, V. Garçon
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  2011 Ocean Surface Topography Science Team Meeting, October 17-21, San Diego, USA. [Conference web site], [HAL]

Invited conferences

- H. Yahia, J. Sudre, V. Garçon, C. Pottier
  High-resolution ocean dynamics from microcanonical formulations in non linear complex signal analysis
  AGU Fall Meeting, December 5-9, San Francisco, USA. [HAL]

- H. Yahia
  Local Predictability Exponents and universality classes in the framework of reconstructible complex systems
  Assyst Workshop on: Mathematics in Network Science: Implications to Socially Coupled Systems, Torino, Italy, November 21-23, Italy. [HAL]

National conferences

- V. Khanagha, O. Pont, K. Daoudi, H. Yahia
  Une nouvelle approche non-linéaire pour la segmentation phonétique
  XXIIIe Colloque Gretsi, Bordeaux, 5-8 Septembre 2011. [HAL]

- R. Jourani, K. Daoudi, R. André-Obrecht, D. Aboutajdine
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  XXIIIe Colloque Gretsi, Bordeaux, 5-8 Septembre 2011. [HAL]

- J. Sudre, H. Yahia, V. Garçon, C. Pottier
  Evaluation de la dynamique océanique à haute résolution satellitaire SST par fusion de données à différentes échelles spatiales
  Atelier sur la fusion de données, Météo France, 18 Octobre 2011, Toulouse. [Workshop web site]
Reports

- • J. Winebarger
  Phoneme segmentation and Voice activity detection
  Internship report, HAL.

2010

Article in international peer-reviewed journal

- • H. Yahia, J. Sudre, C. Pottier, V. Garçon
  Motion analysis in oceanographic satellite images using multiscale methods and the energy cascade
  Pattern Recognition, 2010 direct access, HAL, pdf.

International peer-reviewed conference/proceedings

- • O. Pont
  Universality in multiscale, turbulent-like self-organization: from algal blooms to heartbeat to stock market dynamics
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- • J. Sudre, O. Pont, H. Yahia, C. Pottier, V. Garçon
  Optimal decomposition for the evaluation of ocean dynamics
  OST-ST Meeting, Altimetry for Oceans and Hydrology, 18 - 22 October 2010, Lisbon - Portugal HAL.
- J. Sudre, O. Pont, H. Yahia, C. Pottier, V. Garçon
  Evidencing of multiplicative cascading and intermittency in real/synthetic
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  in Flows: From Small-scale Turbulence to Geophysical Flow , Palma de Majorca, Spain,
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Application du formalisme multiéchelles microcanonique pour la segmentation des signaux de parole
Coresa 2010, Lyon, France. [HAL](#).

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- J. Winebarger
  Internship report [pdf](#) . [HAL](#).

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Articles in International peer-reviewed journals

- A. Turiel, H. Yahia, C. Pérez-Vicente
  Microcanonical multifractal formalism—a geometrical approach to multifractal systems: Part I. Singularity analysis
  Journal of Physics A: Mathematical and Theoretical, 2008. [HAL](#).

- O. Pont, A. Turiel, C. J. Pérez-Vicente
  Description, modeling and forecasting of data with optimal wavelets
  in: Journal of Economic Interaction and Coordination, June 2009, vol. 4, no 1, p. 39–54. [HAL](#).

- O. Pont, A. Turiel, C. Perez-Vicente
  Empirical evidences of a common multifractal signature in economic, biological and physical systems

- E. Sanchez-Soto, A. Potamianos, K. Daoudi
  Unsupervised Stream-Weights Computation in Classification and Recognition Tasks

International peer-reviewed conference/proceedings

- V. Khanagha, A. Khanagha, M. H. Kahaei
Selective Tap Training of FIR filters for Blind Source Separation of Convolutive Speech Mixtures

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Solving global permutation ambiguity of time domain BSS using speaker specific features of speech signals

- H. Yahia, J. Sudre, C. Pottier, V. Garçon
Determination of geostrophic vector field on high resolution SST images from the energy cascade

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- N. Bouguila, K. Daoudi
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- K. Daoudi
Iterated function systems and some generalizations: local regularity analysis and
multifractal modeling of signals
in Scaling, Fractals and Wavelets, 2009. [HAL](http://hal...