2019

Articles in international peer-reviewed journals

- • A. El Aouni, V. Garçon, J. Sudre, H. Yahia, K. Daoudi, K. Minaoui
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  IEEE Transactions on Geoscience and Remote Sensing.  [IEEE Xplore](https://ieeexplore.ieee.org)  [HAL](https://hal.archives-ouvertes.fr)

- • 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](https://aip.scitation.org)  [HAL](https://hal.archives-ouvertes.fr)

- • S. Maji, H. Yahia
  A Feature based Reconstruction Model for Fluorescence Microscopy Image Denoising
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- • 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](https://www.frontiersin.org)  [HAL](https://hal.archives-ouvertes.fr)

- • 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](https://hal.archives-ouvertes.fr)

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](https://www.isinp.org)  [HAL](https://hal.archives-ouvertes.fr)
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](#).

  Coherent Vortex Detection from Particles Trajectories Analysis
  2018 SIAM Conference on Nonlinear Waves and Coherent Structures. [HAL](#).

  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. Klempir, J. Rusz
  Linear classification in speech-based objective differential diagnosis of Parkinsonism
  ICASSP’2018.  [HAL](#).

2017

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- 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
  Revisited: From Poincaré to Recent Advancements , Springer, 2016. [HAL](#).

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

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. [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
- 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  
  defended September 22, 2015.  [HAL](#).
Book chapter

- S. Jacquir, B. Xu, S. Binczak, J.-M. Bilbault
  Détection d'anomalie dans les signaux physiologiques
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  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. Brodru, J. A. Dijksman, R. P. Behringer
  Spanning the scales of granular materials through microscopic force imaging
  Nature Communications, 2015. HAL.

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  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  
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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].

- • O. Yelekci, G. Charria, X. Capet, G. Reverdin, J. Sudre, H. Yahia  
  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  
  10th International Symposium on Visual Computing (ISVC’14), 2014. [HAL].

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
  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.

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- N. Brodu
  Approaches for automated feature detection
  9th IEEE International Conference on Industrial and Information Systems (ICIIS2014), Gwalior, India 2014. HAL.

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  Handling noise in image deconvolution with local/non-local priors
  ICIP 2014. HAL.

- N. Brodru, 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.

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  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](#).

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  Fast and Accurate Texture Recognition with Multilayer Convolution and Multifractal Analysis
  ECCV 2014. [HAL](#).

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  Robust surface reconstruction via triple sparsity
  CVPR, 2014. [HAL](#).

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  ISIVC, Marrakech, Morocco, 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

- [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

- • A. Tamim et al.
  A Simple Tool for Automatic Extraction of Moroccan Coastal Upwelling from Sea Surface Temperature Images

- • 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
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
  Présentation au GDR Phenix: Driven disordered systems, Laboratoire interdisciplinaire de physique 2014.
  HAL. GDR Phenix web site. Conference web site.

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**
- 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.

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

Reports

- • N. Vinuesa
  Internship report HAL .
- • B. Bertrac
  Internship report [HAL](https://hal.utc.fr).

- • S. Mrad
  Internship report [HAL](https://hal.utc.fr).

### 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](https://hal.utc.fr) • [HAL](https://hal.utc.fr).

- • 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](https://hal.utc.fr).

**International peer-reviewed conferences**

- • O. Pont, H. Yahia, R. Dubois, M. Haissaguerre

- 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
  Geoscience and Remote Sensing Symposium (IGARSS), 2012 IEEE International. [HAL](#).

- 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.
  Link.

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

International peer-reviewed conferences

- V. Khanagha, H. Yahia, K. Daoudi, O. Pont, A. Turiel
  Reconstruction of Speech Signals from their Unpredictable Points Manifold
  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)

- R. Jourani, K. Daoudi, R. André-Obrecht, D. Aboutajdine
  Fast Training of Large Margin Diagonal Gaussian Mixture Models for Speaker Identification

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  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. HAL.

- S. Kumar Maji, H. Yahia, O. Pont, T. Fusco, V. Michau, J. Sudre
  A multiscale approach to phase reconstruction for Adaptive Optics

- J. Winebarger, K. Daoudi, H. Yahia
  Improving SVF with DISTBIC for phoneme segmentation
  SPECOM'2011, Speech and Computer, XIV International Conference, September 27-30, 2011 Russia. HAL.

- O. Pont, M. Haissaguerre, H. Yahia, N. Derval, M. Hocini
  Heartbeat dynamics from a microcanonical multiscale approach
  Computing in Cardiology, 18-21 September, 2011, Zhejiang University, Hangzhou, China. Conference web site. HAL.

- H. Kumar, H. Yahia, D. Singh
  A detailed analysis of multi-sensor fusion of moderate resolution imaging spectroradiometer with advanced spaceborne thermal emission and reflection radiometer on classification accuracy for improved land cover classification
19th European Signal Processing Conference, August 29-September 2, 2011, Barcelona, Spain. [HAL](#).

- O. Pont, M. Haissaguerre, H. Yahia, N. Derval and M. Hocini
  A novel analysis method to characterize heartbeat dynamics through the Microcanonical Multiscale Formalism
  6th International Conference on Mass Data Analysis of Images and Signals in Medicine, Biotechnology and Chemistry, August 30 - September 3, 2011, New York, USA. [HAL](#).

- O. Pont, A. Turiel, H. Yahia
  An optimized algorithm for the evaluation of local singularity exponents in digital signals

- V. Khanagha, K. Daoudi, O. Pont, H. Yahia
  Improving text-independant 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
  Inferring fluid motion at submesoscale from high resolution remotely sensed data
  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  
  Apprentissage discriminant des GMM à grande marge pour la vérification automatique du locuteur  
  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
  Emergence & Design of Robustness, General principles and Application to Biological, Social and Industrial Networks, IFISC, Palma de Mallorca, september 21-25, 2010, Spain  [Link to conference page]  [HAL]

- • 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 oceanographic signals: application to the evaluation of ocean dynamics
  OST-ST Meeting, Altimetry for Oceans and Hydrology, 18 - 22 October 2010, Lisbon - Portugal  [HAL]

- • V. Khanagha, K. Daoudi, O. Pont,H. Yahia
  A novel text-independant phonetic segmentation algorithm based on the microcanonical multiscale formalism
  Interspeech 2010, Makuhari, Japan, September 26-30  [HAL]

- • R. Jourani, K. Daoudi, R. André-Obrecht, K. Aboutajdine
  Large Margin Gaussian mixture models for speaker identification
  Interspeech 2010, Makuhari, Japan, September 26-30  [HAL]

- • J. Sudre, H. Yahia, C. Pottier, V. Garçon
  Inferring fluid motion at submesoscale from high resolution remotely sensed data
  Orflow10, Trends in Complex Systems, International Workshop on Living Organisms in Flows: From Small-scale Turbulence to Geophysical Flow, Palma de Majorca, Spain,  [direct access]
HAL

- V. Khanagha, K. Daoudi, O. Pont, H. Yahia
  Application of the microcanonical multiscale formalism to segmentation of speech signals
  European Signal Processing Conference (EUSIPCO 2010), August 23-27, 2010, Aalborg, Denmark, direct access.

National conferences

- V. Khanagha, K. Daoudi, O. Pont, H. Yahia
  Segmentation indépendante du texte par le formalisme multiéchelles microcanonique
  MajecSTIC 2010, Bordeaux, France. HAL.

- V. Khanagha, K. Daoudi, O. Pont, H. Yahia
  Application du formalisme multiéchelles microcanonique pour la segmentation des signaux de parole
  Coresa 2010, Lyon, France. HAL.

Reports

- J. Winebarger
  Internship report pdf. HAL.

2009

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

- • V. Khanagha, A. Khanagha
  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

- • M. Bouali, H. Yahia, A. Turiel, P. Henry
  A Multifractal approach for sun glint in medium resolution satellite imagery
  in: ASPRS Conference (American Society for Photogrammetry and Remote

- N. Bouguila, K. Daoudi
  A Statistical Approach for Binary Vectors Modeling and Clustering
  in: 13th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2009 . HAL .

- N. Bouguila, K. Daoudi
  Learning concepts from visual scenes using a binary probabilistic model

- K. Daoudi, J. Louradour
  A comparison between sequence kernels for SVM speaker verification

Book chapter

- K. Daoudi
  Iterated function systems and some generalizations: local regularity analysis and multifractal modeling of signals