

CR, HDR (2002), Head of project team GeoStat (Geometry and statistics in acquisition data), INRIA Bordeaux-Sud-Ouest (2010). GeoStat EPI created in 2011 (INRIA's CEO decision n. 7886, May 31, 2011) after international evaluation.

[HAL database publication export.](#)

Research and contributions

- **General research line: statistical physics methods in signal processing :**
-
- determination of universality classes' signatures in acquisition signals,
- multiresolution analysis and optimal inference along the scales of complex signals, super-resolution
- sparsity, compact representations,
- measures of the predictability in complex and turbulent signals, reconstruction,
- determination of the transitions in signals using methods of statistical physics,
- new methods for analyzing ocean dynamics from remote sensing data

using nonlinear methods in signal processing (with
[SYSCO2 team, LEGOS](#))

,

- reconstruction of the optical phase perturbated by turbulent atmosphere

in astronomical imaging (adaptive optics),

- Analysis of turbulent signals in the interstellar medium (GENESIS project with Laboratoire d'Astrophysique de Bordeaux and Physik Inst. Köln University).

Editorial boards



- Member of the editorial board of Elsevier's "*Digital Signal Processing*" journal. **From 2011 to mid 2014**



Member of the editorial board of "Frontiers in Fractal Physiology" journal [\(link to\)](#)
Invited speaker sessions

- - Invited speaker, Colloquium SFB956, Université de Cologne, Physikalische Institute *Evidence for phase transitions HI/H₂ in galactic molecular clouds* ". May 2017.

[\(link to programme\)](#)

- - Invited speaker at the Workshop in "*Mathematics in Network Science: Implication to Socially Coupled Systems November 21-23, 2011*", Torino (Italy) organized and supported by the **Institute for Scientific Interchange (ISI) Foundation**

[\(link to website\)](#)

- - Invited speaker in the session "*Non linear physical and biogeophysical processes in the atmosphere and ocean*" at the AGU fall meeting, San Francisco, 5-9 December 2011.

- - Invited speaker at the 2012 EGU (European Geophysical Union) in Vienna, session "Nonlinear, scaling and complex Physical and Biogeophysical Processes in the Atmosphere and Ocean" for presenting the work: *High-resolution ocean dynamics from microcanonical formulations in non linear complex signal analysis*".

[Link to EGU page](#)

- - Invited speaker (with O. Pont and B. Xu) at IEEE EMBC 2013: 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Osaka, July 3-7, 2013. Presented paper: "Arrhythmic dynamics from singularity analysis of electrocardiographic maps".

- - Invited speaker (with D. Singh) at the 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. Title of presentation: "*Advanced nonlinear approaches for handling complex datasets and acquisitions in Earth Observations and Universe Sciences*". [HAL open archive](#)

..

- - Keynote speaker, ISIVC Conference (International Symposium on signal, Image, Video and Communications, ISIVC 2014), November 19 - 21, 2014, Marrakech, Morocco. Title of presentation: "*Edges, transitions, criticality: novel nonlinear characterizations of low-level transition features in signal processing and applications to cross-scale inference in complex signals.*". [Keynote speakers conference web page](#)

- - Invited speaker and member of scientific committee, IEEE ICIIS 2016 Conference,

Roorkee, India.

[Conference web page](#)

Tutorial invited sessions, courses

- IEEE Oceans'2016 conference, Shanghai, April 2016. Tutorial's title: "**Novel Nonlinear Methods in Image Processing for Analyzing Ocean Datasets**"

[IEEE-MTS Oceans 2016](#)

- GIAN courses, India, IIT Roorkee, 2016, title: "**Advances in signal procesing for Earth Observation**"

CNU (Conseil National des Universités)

- Member, titulary, section 61.

Conferences, workshops & meetings: organizing and technical program committees

- Organization of the conference Signals & Physics in October 2016, Inria Paris.
- INDIA CEFIPRA workshop in ICST, "Challenges in overcoming complexity, from big data to cyber-physical systems", April 4 - 5, 2013, New Delhi- India, (member of the organizing and technical program committees).
- 12th International Conference on Analysis and Optimization of Systems: images, wavelets and PDEs (ICAOS 1996, Paris): member of the technical program committee.
- Journées d'Etude sur les Méthodes pour les Signaux Complexes en Traitement d'Image, (INRIA, 2003): organizing and technical program committee.
- Standards for Facial Animation (NFS Workshop, University of Pennsylvania, USA, 1993): member of the technical program committee.
- ERCIM workshop on Environmental Modelling, (Versailles, 1990): member of the technical program committee.
- WMC 2000 (San Diego, USA): member of the technical program committee.
- RTRA-STAE Workshop on Geometrical and Multiscale approaches for predictability and analysis of complex data in astrophysics and geophysics (May 18-19, 2009, Montaigut-sur-save, France): organizing and technical program committee.
- Member of scientific committee, IEEE ICIIS 2016 Conference, Roorkee, India. [Conference web page](#)

Reviewing panels

- ACM Siggraph conference (1993,1995), CVPR'97, IMACOM'93 (Bordeaux 1993), ICASSP and IGARSS (1999-2005), International Journal of Remote Sensing,

AFCET-GROPLAN 1988, Pixim 1989, Oceans 1998, Third Eurographics Workshop on Animation and Simulation (Cambridge, 1992), PRC Communication Homme-Machine working group, ORASIS 1997, International Journal for Computer-Aided Engineering and Software (2006), 8th Eurographic Workshop on Visualization in Scientific Computing (Boulogne-sur-mer, France, 28-30 avril 1997), Journal of Geophysical Research - Oceans (2006), Pattern Recognition Letters, RFIA (2004).

Contracts and project management

- - Geostat is a member of the GENESIS project with the Astrophysics group of the University of Cologne.
- - EPI GeoStat creation (INRIA CEO decision n° 7886, May 31, 2011).
- - NASA-CNES-OSTST: ICARODE project (2013-2016).
- - NASA-CNES-OSTST: HIRESUBCOLOR project (2008-2012).
- - INRIA Fibaur ARC (starting march 2011).
- - FP7 Oceanflux (2011-2014).
- - PHC Volubilis (2010-2012).
- - Aquitaine Région funded project OPTAD (2010-2013).
- - Midi-Pyrénées funded RTRA-STAE Workshop and emerging project (2009).
- - INRIA Thalweg ARC (2002-2004).
- - PHC Egide Plumesat (2005-2007).
- - FP6 Thetis European contract (1998-2001).
- - Dassault-Industries (Action3D, 1987-1989).
- - AMIBE contract (1994-1996).

Major Publications (*with links*)

International journals

- •G. Sing Phartiyal, D. Singh and H. Yahia
Improved Mapping of Flood Affected Villages in India: A Novel Three-Stage Approach Using PolSAR Polarization Signatures and Ensembled Dilated CNNs
International Journal of Remote Sensing, 2023. [HAL](#).
- •G. Sing Phartiyal, D. Singh and H. Yahia
Synergistic Exploitation of localized Spectral-Spatial and Temporal Information with DNNs for Multisensor-Multitemporal Image-Based Crop Classification
International Journal of Applied Earth Observation and Geoinformation, 2023. [HAL](#).
- [S. K. Maji and H. Yahia
Image Denoising in Fluorescence Microscopy using Feature based Gradient Reconstruction
SPIE Journal of Medical Imaging, 2023. \[HAL\]\(#\).](#)

- • H. Aetesam, S. Kumar Maji, **H. Yahia**
Bayesian approach in a learning-based hyperspectral image denoising framework
IEEE Access (open access) [HAL](#).
- • H. Yahia et. al.
Description of turbulent dynamics in the interstellar medium: multifractal/microcanonical analysis I. Application to Herschel observations of the Musca filament
Astronomy & Astrophysics [HAL](#), [Arxiv](#).
- • L. Bonne et. al.
Formation of the Musca filament: evidence for asymmetries in the accretion flow due to a cloud-cloud collision
Astronomy & Astrophysics [HAL](#).
- • G. Phartiyal, N. Brodu, D. Singh, **H. Yahia**, K. Daoudi
Permuted Spectral and Permuted Spectral-Spatial CNN Models for PolSAR-Multispectral Data based Land Cover Classification
IJRS [HAL](#).
- • A. El Aouni et. al.
Robust Detection of the North-West African Upwelling From SST Images
IEEE Geoscience & Remote Sensing Letters [HAL](#).
- • S. K. Maji, R. K. Thakur, H. Yahia
Structure-preserving denoising of SAR images using multifractal feature analysis
IEEE Geoscience & Remote Sensing letters, 2020, [HAL](#).
- • A. El Aouni, K. Daoudi, **H. Yahia**, S. K. Maji, K. Minaoui
Defining Lagrangian coherent vortices from their trajectories
Physics of Fluids, American Institute of Physics, 2020, [HAL](#).
- • 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. 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](#).
- • **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, K. Minaoui, K. Daoudi, **H. Yahia** et al.

Automatic Detection of Moroccan Coastal Upwelling Zones using Sea Surface Temperature Images

International Journal of Remote Sensing, Taylor & Francis, 2018. [HAL](#).

- •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

IEEE Transactions on Geoscience and Remote Sensing, 2018. [HAL](#).

- •G. Attuel, E Gerasimova-Chechkina, F. Argoul, **H. Yahia**, A. Arneodo

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](#).

- •G. Attuel et al.

Multifractal desynchronization of the cardiac excitable cell network during atrial fibrillation. II. Modeling gap junctions dynamically

Frontiers in Physiology, in preparation.

- •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](#).

- •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](#).

- •J. Sudre, **H. Yahia**, O. Pont, V. Garçon

Ocean Turbulent Dynamics at Superresolution From Optimal Multiresolution Analysis and Multiplicative Cascade

IEEE Transactions on Geoscience and Remote Sensing, vol. 53, IGRSD2, number 11, pp. 6274-6285, ISSN 0196-2892 , November 2015. [pdf](#).

- •A. Tamim, **H. Yahia**, K. Daoudi, K. Minaoui, A. Atillah, D. Aboutajdine, M. F. Smiej

Detection of Moroccan coastal upwelling fronts in SST images using the microcanonical multiscale formalism

Pattern Recognition Letters, 55, 2015. [pdf](#).

- •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

IEEE Transactions on Visualization and Computer Graphics, 2015. [pdf](#).

- • 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

IEEE Geoscience & Remote Sensing Letters, 2014. [pdf](#).

- • 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 [pdf](#).

- • 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. [pdf](#).

- • S. K. Maji, **H. Yahia**,
Edges, Transitions and Criticality
Pattern Recognition 47(6) 2104-2115, June 2014. [pdf](#).
- • B. Xu, S. Jacquir, S. Binczak, O. Pont, **H. Yahia**,
Cardiac arrhythmia induced by hypothermia in a cardiac model in vitro
Journal of Electrocardiology, 2013.

[HAL open archive](#).

- •S. K. Maji, **H. Yahia**, H. Badri,
Reconstructing an image from its edge representation
Digital Signal Processing, Elsevier, 2013. [pdf](#).
- •V. Khanagha, K. Daoudi, O. Pont, **H. Yahia**, A. Turiel,
Non-linear speech representation based on local predictability exponents
Neurocomputing, Elsevier, special issue on Non-linear speech processing, 2013. [H](#)

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

International Journal of Computer Mathematics, Taylor and Francis, 2013, [HAL](#).

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- •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. [pdf](#).

- •H. Yahia, J. Sudre, C. Pottier, V. Garçon
Motion analysis in oceanographic satellite images using multiscale methods and the energy cascade
Pattern Recognition, 43(10), pp. 3591–3604, Elsevier, (2010), [pdf](#).
- •H. Yahia, A. Turiel, N. Chrysoulakis, J. Grazzini, P. Prastacos, and I. Herlin
Application of the microcanonical multifractal formalism to the detection of fire plumes in noaa-avhrr data
International Journal of Remote Sensing, Volume 29, Issue 14 2008, pp. 4189-4205, [pdf](#)
-
- •A. Turiel , H. Yahia , C. Perez-Vicente
Microcanonical multifractal formalism: a geometrical approach to multifractal systems. Part I: singularity analysis
"Journal of Physics A: Math. Theor", 2008, vol. 41, [pdf](#).
- •N. Chrysoulakis, I. Herlin, P. Prastacos, H. Yahia, J. Grazzini and C. Cartalis
An improved algorithm for the detection of plumes caused by natural or technological hazards using AVHRR imagery
Remote Sensing of Environment (RSE), Volume 108, Issue 4, 29 Juin 2007, pages 393-406, [pdf](#).
- •J. Grazzini, H. Yahia, A. Turiel and I. Herlin
A multifractal approach for extracting relevant textural areas in satellite meteorological images
Environmental Modelling & Software, 2007, 22(3) :323–334, [direct access](#).
- •A. Turiel, J. Grazzini, and H. Yahia
Multiscale techniques for the detection of precipitation using thermal ir satellite images
IEEE Geoscience and Remote Sensing Letters, October 2005, 2(4) :447–450. [pdf](#).
- •E. Huot, H. Yahia, I. Cohen, and I. L. Herlin
Matching structures by computing minimal paths on a manifold
Journal of Visual Communication and Image Representation, 2002, 13 :302–312, 2002. [HAL](#).
- •J.P. Berroir, I. Herlin, F. Llirbat, J.P. Matsumoto, E. Simon, and H. Yahia
Using scientific workflow techniques for automatic processing of environmental data System Analysis Modeling and Simulation (SAMS), Taylor and Francis, 2002, 42(11) :1601–1613, ISSN : 0020-7721,
[direct access](#)
-
- •J. P. Berroir, I. Cohen, D. Béreziat, S. Bouzidi, I. Herlin, and H. Yahia
Traitements d'images et séquences de données océanographiques
Océanis, Editions de l'Institut Océanographique, 1998, 24(3) :95–116, ISSN : 0182-0745.
- •J. Maillot, H. Yahia and A. Verroust
Interactive Texture Mapping
in **Computer Graphics, ACM Siggraph, Computer Graphics Proceedings**, Annual

Conference Series, pages 27–34, Anaheim, CA, August 1-6 1993, Addison-Wesley, ISBN 0-201-58889-7,

[pdf](#)

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- •C. Mathieu, C. Puech, and **H. Yahia**

Average efficiency of data structures for binary image processing

Information Processing Letters, October 1987, 26(2) :89–93. [HAL](#) , [direct access](#) .

Book chapters

- •A. Saha, S. K. Maji and H. Yahia

A Review on Despeckling of the Earth's Surface Visuals Captured by Synthetic Aperture Radar

In Multimedia Data Processing and Computing , CRC Press, Taylor and Francis Eds:
S. Swarnkar, J. P. Patra, T. Anh Tran, B. Bhushan, S. Biswas [HAL](#) .

- •M. Kumar, S. K. Maji and H. Yahia

3D Volumetric Computed Tomography from 2D X-rays: A Deep Learning Perspective Handbook of AI-Based Models in Healthcare and Medicine, CRC Press, Taylor and Francis Ed: Chander, Guravaiah, B., Kumaravelan (in press)

- •Jayaramu H K, S. K. Maji and H. Yahia

Personalized Multi-User based Movie and Video Recommender System: A Deep Learning Perspective

Supervised and unsupervised data engineering for multimedia data, Wiley-Schrivener, Ed: **S. Swarnkar, J P Patra, S. Khatri, Y. K. Rathore, Tien Anh Tran** (in press)

- •G. Attuel, O. Pont, B. Xu, **H. Yahia**

Sudden Cardiac Death and Turbulence

in **David Ruelle, Ferdinand Verhulst & Christos H. Skiadas** Eds. **The Foundations of Chaos Revisited: From Poincaré to Recent Advancements**

, Springer, 2016

, in press.

- •J. Grazzini, A. Turiel and **H. Yahia**

Multifractal Formalism for Remote Sensing : A Contribution to the Description and the Understanding of Meteorological Phenomena in Satellite Images

in **Miroslav M. Novak editor, Complexus Mundi. Emergent Patterns in Nature**, 5 Toh Tuck Link, Singapore 596224. USA office : 27 Warren Street, Suite 401-402, Hackensack, NJ 07601, USA, ISBN 981-256-666-X,

[access \(google books\)](#)

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- •J. Grazzini, A. Turiel and **H. Yahia**

Méthodes multiéchelles d'analyse d'images météorologiques inspirées de la

thermodynamique: application à la détection de zones précipitantes dans les images infrarouges ,

Méthodes pour les signaux complexes en traitement d'image, H. Yahia et al. eds, INRIA éditeur, Dépot légal : 160404/100, ISBN 2-7261-1269-2, 2003.

International conferences with international reviewing panel

Analysis of complex signals

- • A. Rashidi et. al.

Fast image deconvolution for enhancement of the resolution in the video rate terahertz imaging

46th International Conference on Infrared, Millimeter, and Terahertz Waves, Oral presentation, 2021 . [HAL](#) .

- •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. Ayouché, 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](#) .

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

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](#) .

- • L. Bonne, S. Bontemps, N. Schneider, T. Csengeri , H. Yahia, R. Günsten, G. Attuel, A. Roy, R. Simon

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](#).

- • 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](#).

- •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](#).

- • G. Attuel, H. Yahia

Cardiac arrhythmias and Griffiths phase:desynchronization of excitable cells

STATPHYS 26. [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. 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.

Detection of Moroccan coastal upwelling using sea surface chlorophyll concentration

AICCSA 2015. [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](#).

- •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?

GHER Colloquium. Submesoscale Processes: Mechanisms, Implications and new Frontiers, May 2016, Liege, Belgium , May 2016. [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](#).

- •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](#).

- •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](#) .
- •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, 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](#) .
- •N. Brodu, H. Yahia
Multiscale Image Analysis with Stochastic Texture Differences
(Invited oral keynote session)
National Conference on Recent Advances in Electronics & Computer Engineering (RAECE 2015), IIT Roorkee, India February 13-15, 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
Geophysical Research Abstracts, Vol. 16, EGU2014-6952, EGU General Assembly 2014 2014. [HAL](#) .
- • H. Badri, H. Yahia, D. Aboutajdine
Robust surface reconstruction via triple sparsity
CVPR, 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
Handling noise in image deconvolution with local/non-local priors
ICIP 2014. [HAL](#) .
- • 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](#).
- • S. Kumar Maji, T. Fusco, **H. Yahia**
Cross-scale inference and wavefront reconstruction
SPIE Astronomical Telescopes + Instrumentation, Session: Adaptive Optics Systems
IV (Conference 9148) 2014. [HAL](#).
- • O. Yelekci, G. Charria, D. Mawren, X. Capet, G. Reverdin, F. Gohin, J. Sudre, **H. Yahia**
Observing submesoscale activity in the Bay of Biscay with satellite-derived SST and Chlorophyll concentration
Geophysical Research Abstracts, Vol. 16, EGU2014-6952, EGU General Assembly 2014 2014. [HAL](#).
- • I. Hernandez-Carrasco *et al.*
Inference of super-resolution ocean pCO₂ and air-sea CO₂ fluxes from non-linear and multiscale processing methods
Geophysical Research Abstracts, Vol. 16, EGU2014-15142, EGU General Assembly 2014 2014. [HAL](#).
- • A. Tamim, K. Minaoui, K. Daoudi, A. Atillah, **H. Yahia**, D. Aboutajdine
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