

# Nicolas Dobigeon

*Professor, University of Toulouse  
Junior Member, IUF (2017-2022)  
AI Research Chair, ANITI*

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## Positions

- Since 2019 **AI Research Chair**  
Artificial and Natural Intelligence Toulouse Institute (ANITI)
- Since 2017 **Junior Member**  
Institut Universitaire de France (IUF)
- Since 2016 **Professor**  
IRIT/INP-ENSEEIH, University of Toulouse, France
- 2008–2016 **Assistant/Associate Professor**  
IRIT/INP-ENSEEIH, University of Toulouse, France
- 2007–2008 **Post-doctoral research associate**  
Dept. of EECS, University of Michigan, USA
- 2004–2007 **Research assistant**  
IRIT - Institut de Recherche en Informatique de Toulouse, France
- 2004–2007 **Assistant lecturer**  
INP - Institut National Polytechnique de Toulouse, France

## Academic background

- 2012 **Habilitation à Diriger les Recherches (HDR)**  
INP - Institut National Polytechnique de Toulouse, France
- 2007 **Ph.D. in “Signal, Image, Acoustics”**  
INP - Institut National Polytechnique de Toulouse, France
- 2004 **M.Sc. in “Signal, Image, Acoustics”**  
INP - Institut National Polytechnique de Toulouse, France
- 2004 **Eng. degree in “Electronics and Signal Processing”**  
INP - ENSEEIH Toulouse, France

## Main courses taught

Complex analysis – Laplace Transform and Z Transform  
Inverse problems in signal and image processing  
Probability & Statistics  
Signal Processing  
Digital Signal Processing

## Main educational responsibilities

- 2011-2019 **Head of the “Signal and Image Processing” specialization**  
3rd year (M.Sc.), “Electronics & Signal Processing” Dept., INP-ENSEEIH
- 2010-2011 **Responsible of the “Signal and Image Processing” major program**  
2nd year, “Electronics & Signal Processing” Dept., INP-ENSEEIH

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## Community service

- Since 2018 **Elected Member**, *SPTM Technical Committee, IEEE Signal Processing Society*  
SPTM - Signal Processing Theory and Methods TC
- 2013-2018 **Member of the steering committee of the French research group GdR-ISIS**  
In charge of the Ph.D student network
- 2012-2016 **Member of the French National Council of Universities**  
Section 61 - Computer sciences, Automatic Control and Signal Processing

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## Service to the University

### Scientific direction

- Since 2017 **Deputy Head**, *Dept. of Signals & Images, IRIT*

### Boards and councils

- Since 2020 **Member**, *Scientific strategy working group, Fed. Univ. Toulouse Midi-Pyrénées*  
Track "Data science and digital society"
- 2018-2019 **Member**, *Cercle Académique, Fed. Univ. Toulouse Midi-Pyrénées*
- 2016-2019 **Member**, *Strategic Intelligence Working Group, IRIT*
- Since 2015 **Member**, *EDSYS Doctoral School Council, INP Toulouse*
- 2014-2016 **Elected member**, *Scientific council, INP Toulouse*
- 2011-2017 **Elected member**, *Electronics Dept. council, INP-ENSEEIH*

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## Event organization

### Meetings, workshops and conferences

- 2020/01 **Co-organizer**, *Data Sciences for Geosciences 2020, Toulouse, France*
- 2019/09 **Co-organizer**, *Mini-workshop on "Optimization and Statistics, Toulouse, France*  
Joint event between Univ. Toulouse Capitole (UT1), INP-ENSEEIH and ANITI
- 2019/07 **Co-organizer**, *Congrès du Groupe Hyperspectral de la SFPT (SFPT-GH), Toulouse, France*
- 2019/07 **Co-organizer**, *CAP 2019, as part of PFIA, Toulouse, France*  
French conference on Machine Learning
- 2019/07 **Co-organizer**, *SPARS workshop, Toulouse, France*  
Signal Processing with Adaptive Sparse Structured Representations workshop
- 2019/03 **Co-organizer**, *One-day meeting at GdR ISIS for Ph.D. students, Paris, France*  
"Carrières en Signal, Image & Vision"
- 2018/09 **Advisory committee**, *Workshop on Optimization and Learning, Toulouse, France*  
Event as part of the CIMI Thematic Semester on Optimization
- 2018/07 **Co-organizer**, *ANR BNPSI Workshop on Bayesian Nonparametrics, Bordeaux, France*  
Bayesian nonparametrics for signal and image processing
- 2017/03 **Co-organizer**, *One-day meeting at GdR ISIS, Paris, France*  
"Inversion and multi-\* problems"
- 2016/04 **Co-organizer**, *One-day meeting at GdR ISIS, Toulouse, France*  
"Hyperspectral imagery: which data? which processing? which applications?"
- 2015/11 **Co-organizer**, *One-day meeting at GdR ISIS for Ph.D. students, Paris, France*  
"Carrières en Signal, Image & Vision"

- 2014/11 **Co-organizer**, *One-day meeting at GdR ISIS*, Paris, France  
“Inverse problems: myopic and blind, semi- and unsupervised approaches”
- 2013/10 **Co-organizer**, *One-day meeting at GdR ISIS for Ph.D. students*, Paris, France  
“Carrières en Signal, Image & Vision”
- 2013/07 **Member of the local committee**, *CIMI Thematic Trimester on Image Processing*  
Workshop on “Optimization and Statistics in Image Processing”
- 2011/02 **Co-organizer**, *Réunion GdR ISIS*, Paris, France  
“Contraintes de non-négativité en traitement du signal et des images”
- 2006/05 **Volunteer**, *International conference IEEE ICASSP 2006*, Toulouse, France

### Special sessions

- 2015/06 **IEEE WHISPERS**, “*Hyperspectral pansharpening and fusion*”, Tokyo, Japan
- 2013/09 **EUSIPCO**, “*Recent advances in spectral unmixing for hyperspectral imagery*”, Marrakech, Morocco
- 2010/07 **MaxEnt**, “*Bayesian algorithms for multi-channel image analysis*”, Chamonix, France

### Session chairs

- 2015/09 **EUSIPCO**, “*Image enhancement*”, Nice, France
- 2015/06 **IEEE WHISPERS**, “*Hyperspectral pansharpening and fusion*”, Tokyo, Japan
- 2013/07 **Workshop on “Optimization and Statistics in Image Processing”**, “*Bayesian methods*”, Toulouse, France
- 2010/07 **MaxEnt**, “*Bayesian algorithms for multi-channel image analysis*”, Chamonix, France
- 2009/08 **IEEE WHISPERS**, “*Recent Advances in Spectral Mixture Analysis of Hyperspectral Data*”

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## Editorial activities

### Editorial Boards

- Since 2020 **Associate Editor**, *IEEE Trans. Signal Processing*
- 2018/03 **Guest Editor**, *IEEE. J. Sel. Topics Appl. Earth Obs. Remote Sensing*  
Special issue on “Quality Improvements of Remote Sensing Data”
- 2018-2020 **Associate Editor**, *Digital Signal Processing*
- 2016-2020 **Associate Editor**, *EURASIP Signal Processing*
- 2013-2014 **Associate Editor**, *The Scientific World Journal*  
Probability and Statistics Area

### Conference Technical Program Committees (TPC)

- 2018/12 **TPC Member**, *IEEE IPAS*, Genova, Italy
- 2019/07 **TPC Member**, *IEEE ECMSM*, Toulouse, France
- 2018/12 **TP Chair**, *IEEE IPAS*, Nice, France
- 2018/02 **TPC Member**, *ACIVS*, Poitiers, France
- 2017/09 **Area Chair**, *EUSIPCO*, Kos, Greece
- 2017/02 **TPC Member**, *LVA/ICA*, Grenoble, France
- 2015/09 **Area chair**, *EUSIPCO*, Nice, France
- 2014/08 **TPC member**, *EUSIPCO*, Lisbonne, Portugal
- 2013/08 **TPC member**, *EUSIPCO*, Marrakech, Maroc
- 2012/08 **TPC member**, *EUSIPCO*, Bucharest, Roumanie

### Refereeing for conferences

AISTATS Conferences, NeurIPS Conferences, ICML Conferences, IEEE ICASSP Conferences, IEEE ISIE Symposiums, IEEE SSP Workshops, IEEE WHISPERS Workshops, EUSIPCO Conferences, LVA/ICA Conferences, MaxEnt Workshops, Colloques GRETSI

### Refereeing for journals

Nature Communications, IEEE Trans. Biomedical Engineering, IEEE Trans. Geoscience and Remote Sensing, IEEE Trans. Image Processing, IEEE Trans. Neural Networks & Learning Systems, IEEE Trans. Signal Processing, IEEE J. Sel. Topics Signal Processing, IEEE J. Sel. Topics Applied Earth Observations and Remote Sensing, IEEE J. Biomed. Health Informat. (formerly IEEE Trans. Inf. Technol. BioMed.), IEEE Signal Processing Magazine, IEEE Signal Processing Letters, IEEE Geoscience and Remote Sensing Letters, EURASIP Signal Processing, EURASIP Journal on Advances in Signal Processing, Journal of Signal Processing Systems (formerly VLSI), Recent Patents on Signal Processing, Journal of Electronic Imaging, Pattern Recognition Letters, Mathematical Reviews, SIAM Journal on Imaging Sciences, Computational Statistics and Data Analysis, Statistics and Computing, Journal of Applied Statistics, Journal of Global Optimization, Remote Sensing, International Journal of Digital Earth, Journal of Applied Meteorology and Climatology, Journal of Microscopy, Technometrics, AEU International Journal of Electronics and Communications, Ain Shams Engineering Journal, Traitement du Signal, Journal Européen des Systèmes Automatisés.

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## Evaluation and prospective boards

### National prospective panels

2018/12 **Member**, *CNRS INSU prospective*  
Challenge 13 "From data production to scientific exploitation"

### Institution evaluation committees

2018/12 **Member**, *HCERES Visiting Committee*

### Research project panels

2018-2020 **Steering Committee Member**, *GEOMIX Project*, BELSPO, Belgium

### Refereeing for project proposals

Agence Nationale de la Recherche (ANR), France  
Institut National des Sciences de l'Univers (CNRS INSU), France  
Icelandic Research Fund (IRF), Iceland  
Israel Science Foundation (ISF), Israel  
Belgian Science Policy Office (BELSPO), Belgium  
Research Foundation - Flanders (FWO), Belgium  
Consejo Nacional de Ciencia y Tecnologia (CONACYT), Mexico  
Portuguese Foundation for Science and Technology (FCT), Portugal  
National Council for Development and Innovation (UEFISCDI), Romania  
Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR), Italia  
Instituto de Telecomunicacoes (IT), Portugal  
Grenoble Alpes Université (AGIR), France  
University of Technology of Troyes (UTT), France

### Recruiting committees

- 2020/04 INP-ENSEEIH Toulouse (president)
- 2016/04 Univ. Claude Bernard, Lyon (member of the external pool)
- 2014/05 INP-ENSEEIH Toulouse (member of the internal pool)
- 2013/05 INP-ENSEEIH Toulouse (member of the internal pool)
- 2012/05 Université Joseph Fourier, Grenoble (member of the external pool)

### Habilitation committees

- 2019/12 Pierre Minvielle, Univ. Pau Pays de l'Adour (reviewer)

### Ph.D. committees

- 2020/12 Ajay Kumar Patel, IIT Roorkee, India (external opponent)
- 2020/12 Bikram Koirala, University of Antwerp, Belgium (external opponent)
- 2020/12 Imane El Hamzaoui, Univ. Paris-Saclay (reviewer)
- 2020/12 Gaétan Frusque, Univ. Lyon (examiner)
- 2020/12 Edouard Villepreux, Univ. Grenoble Alpes (reviewer)
- 2020/09 Benjamin Harroué, Univ. Bordeaux (reviewer)
- 2019/10 Christophe Kervazo, Univ. Paris-Saclay (reviewer)
- 2019 Jury member of the French Ph.D. award in Artificial Intelligence (AFIA)
- 2019/04 Etienne Ducasse, ISAE Toulouse (examiner)
- 2018/10 Lucien Bacharach, Univ. Paris-Saclay (reviewer)
- 2017/10 Miguel Simoes, IST, Portugal (reviewer)
- 2016/12 Stéphanie Bernhardt, Supélec, Paris (examiner)
- 2016/09 Lin Nguyen, University of Lille (examiner)
- 2016/02 Muhammad Awais Akhter, University of Antwerp, Belgium (external opponent)
- 2014/09 Cornelia Vacar, Univ. Bordeaux (reviewer)
- 2013/11 Simon Henrot, Université de Nancy (examiner)
- 2013/03 Bertrand Coppa, Grenoble INP (reviewer)

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### Diffusion of scientific knowledge for broad audience

- 2017/10 **Interview**, *on the research activities conducting within IUF*, CNRS INS2I, France  
"Du microscope au satellite, explorer un monde aux mille couleurs"
- 2015/03 **Invited speaker**, *K'es Kafé?*, IRIT, France  
"Imagerie hyperspectrale: quand les pixels ont beaucoup de couleurs..."
- 2012/03 **Invited speaker & co-organizer**, *Médiation Scientifique*, INP Toulouse, France  
"Les mathématiques au service de la santé"
- 2011/11 **Interviews**, *on a paper published in PLoS Genetics* (full press review online [here](#))  
"Pourquoi certaines personnes ne tombent pas malades de la grippe...", Press release.  
"Un chercheur toulousain perce le mystère de la grippe", La Dépêche du Midi.  
"Nous ne sommes pas tous égaux devant la grippe", Le Figaro.  
"Grippe : Pourquoi certains l'attrapent et d'autres pas ?", Santé Magazine  
"Pourquoi certaines personnes ne tombent pas malades de la grippe ?", Magazine Meilleure Santé.
- 2011/05 **Interview**, *"Science & Vie"*, Special issue on Bayesian statistics  
"Une formule au coeur des enjeux scientifiques du siècle" (by F. Lassagne)

2006/11 **Co-organizer & co-chairman**, “*Rencontres CNRS Jeunes*”, Toulouse, France

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## Thematic schools and workshops

- 2017/02 **Invited speaker**, *Schloss Dagstuhl Seminar*, Leibniz Center for Informatics, Germany  
“Hyperspectral, Multispectral, and Multimodal Imaging: Acquisition, Algorithms, and Applications”
- 2015/02 **Invited lecturer**, *Winter School “Search for Latent Variables: ICA, Tensors, and NMF”*, Villard-de-Lans, France  
“Bayesian fusion of multi-band images”
- 2012/06 **Invited lecturer**, *Thematic School on Image Reconstruction*, Fréjus, France  
“Algorithme MCMC pour le démixage linéaire d’images hyperspectrales”
- 2009/11 **Invited co-lecturer**, *CNRS Summer school on image processing*, Figeac, France  
“MCMC methods for image processing applications” (with J.-Y. Tourneret)

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## Supervised Ph.D. students

- Since 2020 **Florentin Coeurdoux**, *INP Toulouse*, co-advised with P. Chainais  
“Generative models for Monte Carlo sampling”
- Since 2018 **Claire Guilloteau**, *INP Toulouse*, co-advised with P. Chainais  
“Factorial models for data fusion in spatial infrared astronomy”
- 2020 **Maxime Vono**, *INP Toulouse*, co-advised with P. Chainais  
“Asymptotically exact data augmentation - Models and Monte Carlo sampling with applications to Bayesian inference”
- 2020 **Etienne Monier**, *INP Toulouse*, co-advised with T. Oberlin  
“Fast reconstruction of partially sampled multiband images for EELS spectromicroscopy”
- 2019 **Adrien Lagrange**, *INP Toulouse*, co-advised with M. Fauvel  
“From representation learning to thematic classification - Application to hierarchical analysis of hyperspectral images”
- 2018 **Vinicius Ferraris**, *INP Toulouse*, co-advised with M. Chabert  
“Fusion-based change detection for remote sensing images of different resolutions and modalities”
- 2018 **Yanna Cruz Cavalcanti**, *INP Toulouse*, co-advised with C. Tauber and T. Oberlin  
“Factor analysis of dynamic PET images”
- 2018 **Jessica Sodjo**, *Univ. Bordeaux*, co-advised with J.-F. Giovannelli and A. Giremus  
“Nonparametric Bayesian models for joint segmentation of a set of images with shared classes”
- 2017 **Clément Elvira**, *Univ. Lille*, co-advised with P. Chainais  
“Bayesian models for antisparsity representation identification and Bayesian nonparametric principal component analysis”
- 2017 **Pierre-Antoine Thouvenin**, *INP Toulouse*, co-advised with J.-Y. Tourneret  
“Modeling spatial and temporal variabilities in hyperspectral image unmixing ”
- 2015 **Qi Wei**, *INP Toulouse*, co-advised with J.-Y. Tourneret  
“Bayesian fusion of multi-band images”
- 2013 **Yoann Altmann**, *INP Toulouse*, co-advised with J.-Y. Tourneret  
“Nonlinear unmixing of hyperspectral images”
- 2013 **Cécile Bazot**, *INP Toulouse*, co-advised with J.-Y. Tourneret  
“Bayesian methods for gene expression factor analysis”
- 2010 **Olivier Eches**, *INP Toulouse*, co-advised with J.-Y. Tourneret  
“Bayesian methods for hyperspectral image unmixing”

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## Supervised post-doctoral researchers

- 2017-2018 **Tatsumi Uezato**, *INP Toulouse*, co-advised with M. Fauvel  
2015-2016 **Shaheera Rashwan**, *City of Scientific Research and Technology Applications (Egypt)*  
2013-2014 **Abderrahim Halimi**, *INP Toulouse*, co-advised with J.-Y. Tournet

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## Research projects

- Since 2019 **AI Research Chair within ANITI**, *Artificial and Natural Intelligence Toulouse Institute*  
“Fusion-based inference from heterogeneous data”,  
Partners: Toulouse INP, CNRS, ISAE Supaéro, CESBIO, CNES, NXP
- 2017 **CNRS Imag’in Project**  
“ARSIS - Acquisition et reconstruction de spectres-images en mode random scanning”,  
Partner: LPS, University Paris Sud
- 2017 **METSA network support**  
Partner: LPS, University Paris Sud
- 2017-2019 **ANR Project**  
“MULTIFRACS - Multifractal theory and methods for large size multivariate systems - Applications to scale free analysis of brain dynamics analysis”,  
Partners: ENS Lyon, LAMA (Univ. Paris-Est Créteil) and CEA-Neurospin
- 2016-2021 **ERC Consolidator Grant**  
“FACTORY - New paradigms for latent factor estimation”,  
P.I.: C. Févotte
- 2016-2019 **CNES/Occitanie Région**  
“DEPICT - From pixelwise unmixing to thematic classification”,  
Partners: CNES and Dynafor (INRA/INP Toulouse)
- 2016-2019 **ERANETMED JC-WATER program, EU FP7**  
“MapInvPlnt - Monitoring the Water Hyacinth Using Hyperspectral Imagery”,  
Partners: MuCSAT (Alexandria, Egypt), NARSS (Cairo, Egypt), IT (Lisboa, Portugal)
- 2015-2018 **Actions Thématiques Stratégiques, IDEX Toulouse**  
“MUESLI - Multiscale mapping of ecosystem services by very high spatial resolution hyperspectral and LiDAR remote sensing imagery”,  
Partners: Dynafor (INRA/INP Toulouse), CESBIO (CNRS/CNES/IRD/UPS)
- 2013-2017 **ANR Project**  
“BNPSI - Bayesian nonparametric methods for signal and image processing”,  
Partners: LAGIS Lab. (University of Lille), INRIA Bordeaux, IMS Lab. (University of Bordeaux) and CEA-LIST
- 2012-2015 **ANR Project**  
“Hypanema - Nonlinear unmixing algorithms for hyperspectral data analysis”,  
Partners: Lagrange Lab. (University of Nice), GIPSA-lab (Grenoble INP) and SMTR (Université Technologique de Troyes)
- 2011-2012 **PEPS-Rupture project supported by CNRS**  
“ESTOMAT - Order estimation in matrix factorization models”,  
Partner: Cédric Févotte (CNRS/LTCl, Telecom ParisTech, France)
- 2010-2011 **BQR project supported by INP Toulouse**  
“MADONNA - Acquisition of hyperspectral and lidar data with airborne sensors”,  
Partners: DYNAFOR (INRA/INP, France), Purpan Agricult. Eng. School (France)
- 2007-2008 **“Young Researcher” project supported by GdR-ISIS**  
“MCMC methods for hyperspectral image analysis”,  
Partner: ADTSI Team, IRCCyN (CNRS/ECN, France)

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## Industrial partnerships

- 2017-2018 **CNES**, "Fusion of multi-band images"
- 2016-2017 **CNES**, "Hyperspectral image denoising"
- 2013-2014 **CNES**, "Detecting nonlinear mixtures in hyperspectral images"
- 2011-2012 **CNES**, "Dictionary learning for remote sensing image analysis"
- 2012 **CLS/CNES**, "Complementary algorithms for reconstructing MADRAS data"
- 2012 **CLS/CNES**, "Algorithms for reconstructing MADRAS data"
- 2009-2010 **CNES**, "TDOA and FDOA measure deinterleaving"

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## Supports, grants and awards

- Since 2012 **4 Highly Cited Papers**, *as of Web of Science*
- 2018 **Finalist**, *Best Student Paper Award (for Maxime Vono)*, IEEE MLSP
- 2017-2022 **Junior Member**, *Institut Universitaire de France (IUF)*
- 2017 **Finalist**, *Student Paper Contest (for Clément Elvira)*, IEEE ICASSP
- 2015 **Finalist**, *Student Paper Contest (for Qi Wei)*, IEEE CAMSAP
- 2014 **Top 10% Paper Award**, *IEEE ICIP*
- 2013 **IEEE Senior Member**
- 2013 **Best Paper Award**, *IEEE WHISPERS*
- 2011 **Best Reviewer Award**, *IEEE Geosci. Remote Sensing Letters*
- Since 2011 **Holder**, *French Ministry of Research "Prime d'Excellence Scientifique" (PES)*
- 2009 **Finalist**, *ASTI Ph.D. Prize*
- 2007-2008 **Recipient**, *French Ministry of Defence post-doctoral fellowship*
- 2007 **Recipient**, *Léopold Escande Ph.D. Prize*
- 2007/08 **Recipient**, *Workshop Travel Grant*, IEEE SSP
- 2007/04 **Finalist**, *Student Paper Contest*, IEEE ICASSP 2007
- 2005/07 **Recipient**, *Ph.D. Student Travel Grant*, GdR-ISIS
- 2004-2007 **Recipient**, *French Ministry of Research doctoral scholarship*

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## Memberships

- Since 2019 **AI Research Chair**, *Artificial and Natural Intelligence Toulouse Institute (ANITI)*
- Since 2019 **Member**, *AOC project team, Lab. of Excellence CIMI*
- Since 2019 **Member**, *Toulouse Interdisciplinary Deep Learning (TIdDL) group*
- Since 2017 **Junior Member**, *Institut Universitaire de France (IUF)*
- Since 2008 **Member**, *SC Group of the IRIT laboratory*
- Faculty member**, *TeSA cooperative laboratory*
- Member**, *"Signal & image processing" CNES Technical Chapter*
- Since 2005 **Member**, *IEEE Signal Processing Society*
- Member**, *IEEE Geoscience & Remote Sensing Society*
- Since 2004 **Member**, *French research group GdR-ISIS*

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## Seminars and invited talks

- 2021/06 **Invited Talk**, *Future in Intelligence*, Toulouse, France



- 2021/06 **Invited Talk**, *ORASIS*, Saint-Ferréol, France
- 2021/06 **Invited Talk**, *Workshop on Low-Rank Models and Applications (LRMA)*, Mons, Belgium
- 2020/09 **Seminar**, *Séminaires SigMA*, CRISAL, Lille, France  
 “Fusion-based change detection for remote sensing images of different resolutions and modalities”
- 2019/12 **Invited talk**, *Bee Week 2019*, Univ. Bordeaux, France  
 “Fusion-based change detection for remote sensing images of different resolutions and modalities”
- 2018/12 **Invited talk**, ENIS Sfax, Tunisia  
 “Fusion-based change detection for remote sensing images of different resolutions and modalities”
- 2018/10 **Invited talk**, *Journée GdR-ISIS & OG “Questions ouvertes en analyse du signal pour l’astronomie gravitationnelle”*, Université Paris Diderot  
 “Inférence Bayésienne et algorithmes de Monte Carlo – Une introduction”
- 2017/10 **Invited talk**, *Dagstuhl Seminar 17411*, Leibniz Center for Informatics, Germany,  
 “Trends, issues & opportunities in fusion-related problems”
- 2017/05 **Seminar**, *Séminaires de l’Unité MIAT*, INRA, Toulouse, France,  
 “Spectral Mixture Analysis - Beyond the Linear Mixing Model”
- 2016/11 **Invited talk**, *Chemometrics and Statistics in Image Analysis*, Institut Henri Poincaré (IHP), Paris, France,  
 “Spectral Mixture Analysis - Beyond the Linear Mixing Model”
- 2015/11 **Seminar**, *CCT CNES TSI*, IAS, Toulouse, France,  
 “A short tutorial on Bayesian methods”
- 2014/12 **Seminar**, *Séminaires Signal & Image*, Lille, France,  
 “Bayesian fusion of multi-band images”
- 2014/04 **Invited talk**, *Symposium on Hyperspectral Imaging in Research and Engineering (SHIRE 2014)*, Sheffield, UK,  
 “Bayesian linear unmixing for spectral mixture analysis - Application to hyperspectral imagery”
- 2013/04 **Seminar**, *“Signal & Image Processing” CNES Technical Chapter*, IAS, Toulouse, France,  
 “Démélange (non-)linéaire d’images hyperspectrales”
- 2012/12 **Seminar**, *Séminaires Problèmes Inverses*, Bordeaux, France  
 “Bayesian approaches for subspace estimation”
- 2012/12 **Invited talk**, *International PICS 2012 Workshop on Chemometrics in time-resolved and imaging spectroscopy - Instrumental measurements and data analysis*, Lille, France  
 “Bayesian linear unmixing for spectral mixture analysis”
- 2012/07 **Talk**, *Journée GdR-ISIS “Imagerie multi/hyperspectrale : problématiques et nouveaux domaines d’applications”*, TelecomParisTech, Paris, France  
 “Détection de mélanges non-linéaires pour l’analyse d’images hyperspectrales” (by Yoann Altmann)
- 2012/01 **Seminar**, *Groupe de Travail Image*, IMT, University of Toulouse, France  
 “(Non-)linear unmixing of hyperspectral images”
- 2011/12 **Invited talk**, *Atelier “Astrostatistique en France”*, Grenoble, France  
 “MCMC algorithms for spectral unmixing”
- 2011/11 **Invited talk**, *Journée GdR-ISIS “Méthodes de Monte Carlo pour les problèmes inverses bayésiens”*, TelecomParisTech, Paris, France  
 “MCMC algorithms for spectral unmixing”
- 2011/03 **Seminar**, LPS Laboratory, Université de Paris-Sud 11, France  
 “Bayesian linear unmixing for spectral mixture analysis”
- 2011/02 **Talk**, *Journée GdR-ISIS “Contraintes de non-négativité en traitement du signal et des image”*, TelecomParisTech, Paris, France  
 “Simulation bayésienne pour la séparation de sources non-négatives” (by Said Moussaoui)

- 2010/12 **Seminar**, Université de Pau, France  
 “Algorithmes bayésiens pour le démixage supervisé, semi-supervisé et non-supervisé d’images hyperspectrales”
- 2011/03 **Talk**, *Journée “Mathématiques pour l’Ingénierie : de la Modélisation à la Résolution de Problèmes Concrets”*, INP-ENSEEIH, Toulouse, France  
 “Reconstruction bayésienne d’images parcimonieuses. Application à l’imagerie MRFM”
- 2010/03 **Seminar**, Supélec, Gif-sur-Yvette, France  
 “Méthodes MCMC pour l’analyse d’images hyperspectrales”
- 2009/05 **Talk**, *Assemblée Générale du GdR ISIS*, Batz-sur-mer, France  
 “Méthodes MCMC pour l’analyse d’images hyperspectrales”
- 2009/03 **Talk**, *Journée GdR-ISIS “Problèmes inverses - Estimation des hyperparamètres”*, TelecomParisTech, Paris, France  
 “Reconstruction bayésienne d’images MRFM parcimonieuses”
- 2009/03 **Talk**, *Journée GdR-ISIS “Modèle stochastique multivarié en traitement des images”*, TelecomParisTech, Paris, France  
 “Extraction de composants purs et démixage linéaire bayésien en imagerie hyperspectrale”
- 2008/07 **Invited talk**, *Workshop on change-point detection methods and applications*, AgroParisTech, Paris, France  
 “Joint segmentation of wind speed and direction using a hierarchical model”
- 2008/07 **Invited talk**, *ARO-MURI MRFM Program Progress Review*, Cornell University, Ithaca, USA  
 “Sparsity constrained image reconstruction for MRFM” (by Alfred O. Hero)
- 2008/04 **Seminar**, GIPSA-lab, Grenoble, France  
 “Segmentation conjointe de signaux multi-capteurs par échantillonnage bayésien”
- 2006/12 **Seminar**, IRCCyN Lab., Nantes, France  
 “Un modèle bayésien hiérarchique pour la segmentation conjointe de séries astronomiques”
- 2005/04 **Talk**, *Colloque EDIT*, Toulouse, France  
 “Segmentation conjointe de données astrophysiques”

## Publications

**Synthetic summary of the scientific production, (submitted as gray superscript)**

	total		2020	2019	2018	2017	2016	2015	≤2014
international journal	77 <sup>+3</sup>	=	8 <sup>+3</sup>	8	6	5	7	8	35
national journal	1	=							1
book chapter	3	=					2		1
international conference	106	=	3	7	6	8	6	7	69
national conference	28	=		6	1	7		2	12
patent	1	=							1

**Bibliometric indicators, Source : *Google Scholar*, Nivember 2020**

Citations : 8305

H-index : 41

### Full list of publications

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- [CI3] V. Ferraris, N. Dobigeon, Y. C. Cavalcanti, T. Oberlin, and M. Chabert, "Unsupervised change detection for multimodal remote sensing images via coupled dictionary learning and sparse coding," in *Proc. IEEE Int. Conf. Acoust., Speech, and Signal Processing (ICASSP)*, Barcelona, Spain, May 2020.
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