François Septier

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Université Bretagne Sud / Lab-STICC UMR CNRS 6285

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Emplois occupés

Depuis Sept. 2018 **Professeur des universités (CNU 26)**.
Université Bretagne Sud - Lab-STICC UMR CNRS 6285

Jan. 2017 - Août 2018 **Responsable Adjoint Chargé de la Recherche**.
Département "Systèmes de Communication" IMT Lille Douai

2015-2016 **Coordinateur Recherche de Télécom Lille**.

Sept. 2015 - Sept. 2014 **Délégation Institut Mines-Télécom - Visiting Associate Professor**.
Department of Statistical Science, University College London (UCL), UK

Sept. 2009 - Août 2018 **Maître de Conférences**.
IMT Lille Douai (Ex-Télécom Lille) / CRIStAL UMR CNRS 9189, France

Août 2009 - Mars 2008 **Chercheur post-doctoral**.
Laboratoire Traitement de Signal, University of Cambridge, UK

Fév. 2008 - Oct. 2007 **Attaché temporaire d'enseignement et de recherche**.
Institut des Sciences et Techniques de Valenciennes (ISTV), France

Sep. 2007 - Sep. 2004 **Allocataire de Recherche**.
Institut d'Electronique, de Microlectronique et de Nanotechnologie (IEMN) et Télécom Lille, France

Sep. 2007 - Sep. 2004 **Moniteur de l'Education Nationale**.
Institut des Sciences et Techniques de Valenciennes (ISTV), France

Parcours académique

Jan. 2018 **Qualification aux fonctions de Professeur des Universités**.
Section CNU 26 - *Mathématiques appliquées et applications des mathématiques*
Section CNU 61 - *Génie informatique, automatique et traitement du signal et de l'image*

Dec. 2017 **Habilitation à diriger les recherches (HDR)**.
Université de Lille

Jan. 2009 **Qualification aux fonctions de Maître de Conférences**.
Section CNU 61 - *Génie informatique, automatique et traitement du signal et de l'image*

Mai 2008 **Doctorat "Signal et Télécommunications"**.
Université de Valenciennes et du Hainault-Cambrésis (UVHC), France

Juin 2004 **Master Recherche "Signal et Télécommunications"**.
Université de Valenciennes et du Hainault-Cambrésis (UVHC), France

Juin 2004 **Diplôme d'Ingénieur Télécom Lille**.
Télécom Lille, France

Enseignements

Depuis 2018 **Universite Bretagne Sud, France**.
Statistique, Théorie de l'estimation, Machine Learning.

2009–2018 **IMT Lille Douai**.
Signaux déterministes et aléatoires, Statistiques, Apprentissage, Machine learning, Probabilités.

2010–2011 **Institut des Sciences et Techniques de Valenciennes (ISTV) - 24h (ETD)** .
Master 2 "Ingénierie des Systèmes de Communication" : Cours en Traitement statistique du signal.

2004–2008 **Institut des Sciences et Techniques de Valenciennes (ISTV) - 272h (ETD)** .
Réseaux locaux sans fil (Master 2), Introduction au logiciel Matlab (L3), Projet "Systèmes de communications numériques" (Participation à sa création - L3), Canal multi-trajets et Egalisation (L3)

Responsabilités

Depuis 2018 **Directeur des études du Master 2 Data Science et Modélisation Statistique**.
Université Bretagne Sud

2015-2018 **Coordinateur de l'UV "Data Science"**.
5ème année de IMT Lille Douai ($\approx$ 120h)

2012-2018 **Coordinateur de l'UV "Signal & Communications"**.
3ème année de Télécom Lille1 ($\approx$ 100h)

2009-2018 **Responsable du module "Théorie du signal déterministe"**.
3ème année de Télécom Lille1

Prix et distinctions

2015 "Best Paper Award", Conférence IEEE ISSNIP.

2009 Finaliste du "Best Regular Paper Award", 3ème place, Conférence FUSION.

2004-2007 Allocation de recherche de l'Education Nationale.

Encadrement

Thèses

2019-... Bahman Y. S. Khanloo, co-encadré (40%) avec Victor Elvira (IMT Lille Douai) et Laurent Clavier (IMT Lille Douai).
"Adaptive Importance Sampling Methods for Sequential Bayesian Inference and Estimation in Complex Systems"

2018-... Min Rui, co-encadré (50%) avec Christelle Garnier (IMT Lille Douai) et John Klein (Univ. Lille).
"Modèles et méthodes de Monte-Carlo séquentielles pour le suivi dans les espaces de grande dimension"

2015-2018 Roland Lamberti, co-encadré (33%) avec François Desbouvries et Yohan Petetin (Telecom SudParis).
"Contributions aux méthodes de Monte Carlo et leur application au filtrage statistique"
Publications: [J3–J5, CN2, C6, C8, C16]

2013-2016 Harizo Rajaona, co-encadré (60%) avec Yves Delignon et financée par CEA/DAM & ARIA Technologies.
"Méthodes d'estimation pour la recherche de sources NRBC"
Publications: [C7, J7, J12, C18]

2011-2014 Thi Le Thu Nguyen, co-encadrée (50%) avec Yves Delignon.
"Sequential Monte-Carlo Sampler for Bayesian Inference in Complex Systems"
Publications: [J7, J9, C19, C25]

Post-docs

2011–2012 Adrien Ickowicz, 14 mois (now Research Scientist at CSIRO, Australie).
"Méthodes statistiques pour l'estimation de sources polluantes"
Publications: [C28, R1, C30, R2, R3]

2011 Nghi Truong Cong, 9 mois (now Lecturer, Ho Chi Minh City University of Technology, Vietnam).
"Poursuite multi-cibles dans des séquences vidéo"
Publications: [C31]

Master

2010 Bassam El Hajj Chehade, Research Master Lille Univ. "Automatique, Génie Informatique et Image" .
"Multi-Object Tracking in video sequences"

Projets de recherche

2018-2020 **Contrat de recherche**, Responsable.
"Sequential Statistical Methods for Source Term Estimation"
Partenaires: CEA/DAM

2018-2022 **Projet ANR JCJC**, Participant.
"PISCES - Adaptive importance sampling methods for Bayesian inference in complex systems"

2017-2021 **Projet ANR JCJC**, Participant.
"BoB - Bayes on a Budget - big data and expensive models"
Partners: Painleve (Univ. Lille), CRIStAL (Centrale Lille/INRIA/IMT Lille Douai).

2017-2021 **Projet ANR blanc**, Participant.
"ARBurst - Achievable region of multi-users bursty wireless communications
Partners: CITI (INSA Lyon), IETR (INSA Rennes), IRCICA (Univ. of Lille/IMT Lille Douai).

2015-2016 **Projet financé par l'Institut français de Singapore et A*STAR**, Responsable.
"Statistical Models and Methods for Urban Air Pollution Forecasting using Participatory Sensing" Partenaires: A*STAR (Singapore) and CRIStAL

2015 **Projet financé par l'Institut Mines-Télécom**, Responsable.
"SMART: From data to knowledge: Statistical Modeling and Estimation of Heterogeneous Sensor Data" Partenaires : University College London (UK), Sheffield University (UK), A*STAR (Singapore)

2013-2017 **Projet ANR blanc**, Participant.
"BNPSI - Bayesian NonParametric methods for Signal and Image processing"
`https://project.inria.fr/bnpsi/`
Partenaires : INRIA Bordeaux, IMS (University of Bordeaux), IRIT (University of Toulouse), CEA-LIST.

2012-2013 **Contrat de recherche**, Responsable.
"Statistical Methods for Source Term Estimation"
Partenaires: CEA/DAM

2012 **Projet BQR financé par l'Université de Lille1 et l'Ecole centrale de Lille**.
"Models and Methods for Sensor Networks"
Partenaires : P. Painlevé Lab. (University of Lille1), IRCICA Lab. (University of Lille1)

2011-2012 **Projet financé par le GIS 3SGS et le CEA**, Responsable.
"Statistical Methods for Source Term Estimation"
Partenaires : LM2S Lab. (Troyes University of Technology), CEA/DAM

2011 **Projet financé par l'Institut Mines-Télécom**, Responsable.
"Multiple objects tracking in video"
Partenaires : IFFSTAR

2008-2009 **Projet financé par le DIF/DTC, UK**, Participant.
"Cluster Project on Target Tracking"
Partenaires : Bristol University, Cambridge University, Imperial College London and QinetiQ

2008-2009 **Programme financé par le Statistical and Applied Mathematical Sciences Institute, USA**, Participant.
"Sequential Monte-Carlo methods"
Animateur du groupe de travail "Multitarget Tracking"

Visites et séjours scientifiques

Depuis 2014 **Department of Statistical Modeling, Institute of Statistical Mathematics, Japan**, 4 semaines par an.

11/14 - 07/15 **Department of Statistical Science, University College London, UK**, 8 mois.

10/14 - 11/14 **Department of Automatic Control and Systems Engineering, Sheffield University, UK**, 2 mois.

Aug. 2013 **Department of Statistical Modeling, Institute of Statistical Mathematics, Japan**, 2 semaines.

Déc. 2012 **Department of Statistical Science, University College of London, UK**, 2 semaines.

Mars 2012 **Department of Engineering, University of New South Wales, Australia**, 1 mois.

Sep. 2008 **Statistical and Applied Mathematical Sciences Institute (SAMSI), USA**, 2 semaines.

Activités d'animation de la recherche

2019-... **Co-responsable de l'équipe de recherche DECIDE du Lab-STICC**.

2013-... **Co-animateur de l'action "Méthodes de simulation stochastique" au sein du GDR-ISIS**.

2013-2018 **Membre du comité de pilotage du réseau thématique**, Institut Mines-Télécom : "Mathématiques appliquées et informatique fondamentale".

2018 **Co-organisateur d'une journée GDR-ISIS "Echantillonnage Monte Carlo et Apprenstissage statistique"**.

2017 **Co-organisateur d'un session spéciale "Interactions entre méthodes d'optimisation et algorithmes de simulation stochastique" au XXVIème colloque GRETSI, Juans-les-Pins**.

2015 **Co-organisateur d'une journée GDR-ISIS "Sur les interactions Méthodes de Monte Carlo et Algorithmes d'Optimisation"** .

2014 **Co-organisateur d'une journée GDR-ISIS "Filtrage Bayésien en Grande Dimension par Méthodes de Monte Carlo"** .

2012 **Co-organisateur du workshop**, *"Mathematical Models for Impulsiveness : Alpha-stable processes for signal processing and communications"*, 18/12/2012, Lille, France.

2011 **Co-organisateur du workshop**, *"Filtering, MCMC and ABC"*, 28-29/03/2011, Lille, France.

2008-2009 **Animateur du groupe de travail "Multitarget Tracking"**, *Programme "Sequential Monte-Carlo methods" Statistical and Applied Mathematical Sciences Institute, USA*.

Travaux d'évaluation et d'expertise

Membre de comités de programme de conférences

12/2019 IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing, Guadeloupe.

07/2019 ISSAT International Conference on Data Science in Business, Finance and Industry (DSBFI 2019), Vietnam.

09/2017 XXVIeme colloque GRETSI, Juans-les-Pins.

06/2014 IEEE Workshop on Statistical Signal Processing (SSP 14), Jupiters, Gold Coast, Australia.

04/2014 IEEE International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP), Singapore.

07/2012 6th International Symposium on signal, Image, Video and Communications (ISIVC), Valenciennes, FR.

Participation à des jurys de thèse

03/2019 Léo Legrand, *"Contributions aux pistages mono et multi-cibles fondés sur les ensembles finis aléatoires"*, Université de Bordeaux - Rapporteur.

03/2019 Marina Riabiz, *"On Latent Variable Models for Bayesian Inference with Stable Distributions ans Processes"*, University of Cambridge (UK) - Rapporteur.

12/2018 Marcos Eduardo Gomes-Borges, *"Real-Time Sensor Management Strategies for Multi-Object Tracking"*, Centrale Lille.

12/2018 Khac Phuc Hung Thai, *"Radar « around the corner »: Détection et localisation de cibles masquées en milieu urbain"*, IMT Atlantique, ONERA.

04/2018 Kersane Zoubert-Ousseni, *"Algorithmes de géolocalisation à l'intérieur d'un bâtiment en temps différé"*, Université de Rennes 1, CEA.

06/2013 Nouha Jaoua, *"Estimation Bayésienne non Paramétrique de Systèmes Dynamiques en Présence de Bruits Alpha-Stables"*, Ecole Centrale de Lille.

10/2011 Majdi Mansouri, *"Collaborative Signal Processing in Wireless Sensor Networks"*, UTT Troyes.

07/2011 Michele Pace, *"Stochastic models and methods for multi-object tracking"*, University of Bordeaux .

Participation à des comités de sélection

05/2019 Université Bretagne Sud, MCF 26 0092.

05/2016 Université de technologie de Troyes, MCF 61 4025.

05/2014 ENSEEIHT University of Toulouse, MCF 61 4058.

05/2013 ENSEEIHT University of Toulouse, MCF 63 0310.

05/2011 Université de technologie de Troyes, MCF 61 0007.

Membre de comités d'évaluation

09/2018 Projet de recherche soumis à la *Czech Science Foundation*, République tchèque.

01/2018 Projet de recherche soumis à la *Netherlands Organisation for Scientific Research* (NWO), Pays-Bas.

05/2017 Evalution du programme *French-South African Institute of Technology* (F'SATI) à Prétoria et Cape Town (2008-2015) demandée par la *National Research Foundation*, Afrique du Sud.

2013-2014 Financement de thèses - Institut Mines-Télécom.

12/2011 Allocation de recherche post-doctorale - Conseil Régional Champagne Ardenne.

Activités de relecture

Journaux IEEE Trans. on Signal Processing, IEEE Signal Processing Letters, Bayesian Analysis, IEEE Journal of Selected Topics in Signal Processing, Signal Processing (Elsevier), Automatica, IEEE Trans. on Communications, IEEE Communications Letters, IEEE Trans. on Vehicular Technology, IEEE Sensors Journal, IEEE Journal of Oceanic Engineering, Eurasip Journal on Wireless Communications and Networking.

Conférences IEEE ICASSP Conferences, EUSIPCO Conferences, IEEE SSP Workshops, IEEE ISSNIP, "Bar-Itzhack Memorial Symposium on Estimation, Navigation, and Spacecraft Control 2012", ISSPA 2010.

Affiliations

Depuis 2018 Membre de l'équipe DECIDE du Lab-STICC UMR CNRS 6285.

Depuis 2013 Membre de International Society for Bayesian Analysis (ISBA).

Depuis 2009 Membre de la IEEE Signal Processing Society.

Depuis 2009 Membre du GDR-ISIS.

2011-2018 Membre de l'équipe "Signal, Models and Applications" de CRIStAL, UMR 9189 (anciennement "Signal and Image" du LAGIS, UMR CNRS 8219).

Séminaires et exposés invités

8/2019 Bayesian Inference Summer School, Karuizawa, Japan.
"Advanced Sequential Monte Carlo Methods for Bayesian filtering" (3h)

11/2018 Invited talk - Workshop "Advanced multiple target tracking techniques" GDR-ISIS, Mines ParisTech.
"Advanced Monte Carlo methods for multi-traget tracking"

2/2018 International Workshop on Spatial and Temporal Modeling from Statistical, Machine Learning and Engineering perspectives, ISM, Tokyo, Japan (1h).
"Revisit of the resampling mechanism used in Importance sampling methods" (1h)

7/2017 Séminaire, Institute of Statistical Mathematics, Tokyo Japan.
"Monte Carlo methods for Tracking"

2/2017 Invited talk at Journeée "Pistage" GIS Albatros/INRIA/Université de Bordeaux, Bordeaux France.
"Monte Carlo methods for Tracking"

7/2016 International Workshop on Spatial and Temporal Modeling from Statistical, Machine Learning and Engineering perspectives, ISM, Tokyo, Japan (1h).
"Sequential Markov Chain Monte Carlo for Bayesian Filtering with Massive Data"

7/2015 3rd International Workshop on Spatial and Temporal Modeling from Statistical, Machine Learning and Engineering perspectives, ISM, Tokyo, Japan (1h).
"Langevin and Hamiltonian based Sequential MCMC for Efficient Bayesian Filtering in High-dimensional Spaces"

6/2015 Seminar, Mathematics Department, University of Clermont-Ferrand University, France (1h).
"Langevin and Hamiltonian based Sequential MCMC for Efficient Bayesian Filtering in High-dimensional Spaces"

5/2015 Séminaire, Institute for Infocomm Research (I^2R)-A*STAR, Singapore.
"New Perspectives on Multiple Source Localization in Wireless Sensor Networks" (1h)

10/2014 Séminaire, University of Sheffield, UK.
"Monte-Carlo Methods for Bayesian filtering in High-Dimensional spaces and/or Likelihood-free models" (1h)

07/2014 2nd International Workshop on Spatial and Temporal Modeling from Statistical, Machine Learning and Engineering perspectives, ISM, Tokyo, Japan.
"Connectivity and Localization in Wireless Sensor Networks" (1h) and "Sequential Monte-Carlo Samplers for Bayesian Inference in Complex Systems" (1h)

03/2014 3ème Colloque de l'Institut Mines-Télécom "Numérique: Grande échelle & complexité", Institut Mines-Télécom, Paris.
"Inférence par Méthodes de Monte-Carlo"

08/2013 International Workshop on Spatial and Temporal Modeling from Statistical, Machine Learning and Engineering perspectives, ISM, Tokyo, Japan.
"Bayesian Filtering in High-Dimensional Spaces" (1h) and "Bayesian Filtering with Intractable Likelihood" (1h)

05/2013 Séminaire BigMC - Institut Henri Poincaré, Paris, France.
"Bayesian Filtering in High-Dimensional Spaces using Sequential MCMC"

05/2009 Laboratoire L2S, Gif-sur-Yvette.
"Méthodes particulaires pour la poursuite d'objets"

11/2009 Final Workshop of the SAMSI program on Sequential Monte-Carlo methods, Durham, USA.
"Multi-target Tracking using MCMC-Based Particle Algorithm."

01/2009 IRISA - Rennes, France.
"Méthodes particulaires pour la poursuite et la détection de cibles"

09/2008 Opening Workshop of the SAMSI program on Sequential Monte-Carlo methods, Durham, USA.
"Tracking of Coordinated Groups using Marginalised MCMC-based Particle Algorithm"

Publications

Submitted papers

[P1] A. De Freitas, F. Septier, and L. Mihaylova. "Sequential Markov Chain Monte Carlo for Bayesian Filtering with Massive Data". submitted to an IEEE journal - arXiv:1512.02452. 2018.

[P2] N. Salman, F. Septier, and L. Mihaylova. "Markov Chain Monte Carlo and Shrinkage Approaches to Multitarget Localization with Correlated Measurements". submitted to an IEEE journal. Oct. 2017.

[P3] G. W. Peters, T. Matsui, F. Septier, and A. Tamamori. "Estimation and Calibration in Gaussian Process State Space Models : MCDC Tool". submitted to Journal of Statistical Software. Feb. 2017.

[P4] G. W. Peters, L. Clavier, I. Nevat, and F. Septier. "Generalized Interference Models for Wireless Network Systems : the PNSC(α) Framework". submitted to ACM Transactions on Modeling and Computer Simulation. Jan. 2017.

[P5] W. Gu, X. Yan, G. W. Peters, L. Clavier, F. Septier, and I. Nevat. "Robust and Adaptive Receiver Design in Impulsive Subexponential Noise". submitted to an IEEE journal. Jan. 2017.

International journal papers

[J1] P. Zhang, I. Nevat, G. W. Peters, F. Septier, and M. A. Osborne. "Spatial Field Reconstruction and Sensor Selection in Heterogeneous Sensor Networks with Stochastic Energy Harvesting". In: Apr. 2018. IEEE Transactions on Signal Processing. doi: 10.1109/TSP.2018.2802452.

[J2] Q. T. Nguyen, Y. Delignon, F. Septier, and A. T. Phan-Ho. "Probabilistic modelling of printed dots at the microscopic scale". In: 62, Mar. 2018. Signal Processing: Image Communication, pp. 129–138. doi: 10.1016/j.image.2018.01.003.

[J3] R. Lamberti, Y. Petetin, F. Desbouvries, and F. Septier. "Semi-independent resampling for particle filtering". In: *IEEE Signal Processing Letters* 25 (1), Jan. 2018, pp. 130–134. doi: 10.1109/LSP.2017.2775150.

[J4] R. Lamberti, F. Septier, N. Salman, and L. Mihaylova. "Gradient Based Sequential Markov Chain Monte Carlo for Multi-target Tracking with Correlated Measurements". In: *IEEE Transactions on Signal and Information Processing over Networks* 4 (3), 2018, pp. 510–518. doi: 10.1109/TSIPN.2017.2756563.

[J5] R. Lamberti, Y. Petetin, F. Desbouvries, and F. Septier. "Independent Resampling Sequential Monte Carlo Algorithms". In: *IEEE Transactions on Signal Processing* 65 (20), Oct. 2017. available on arXiv:1607.05758, pp. 5318–5333. doi: 10.1109/TSP.2017.2726971.

[J6] M. Hawes, L. Mihaylova, F. Septier, and S. Godsill. "Bayesian Compressive Sensing Approaches for Direction of Arrival Estimation With Mutual Coupling Effects". In: *IEEE Transactions on Antennas and Propagation* 65 (3), Mar. 2017, pp. 1357–1368. doi: 10.1109/TAP.2017.2655013.

[J7] T. L. T. Nguyen, F. Septier, H. Rajaona, G. W. Peters, I. Nevat, and Y. Delignon. "A Bayesian Perspective on Multiple Source Localization in Wireless Sensor Networks". In: *IEEE Transactions on Signal Processing* 64 (7), Apr. 2016, pp. 1684–1699. DOI: 10.1109/TSP.2015.2505689.

[J8] F. Septier and G. W. Peters. "Langevin and Hamiltonian Based Sequential MCMC for Efficient Bayesian Filtering in High-Dimensional Spaces". In: *IEEE Journal of Selected Topics in Signal Processing* 10 (2), Mar. 2016, pp. 312–327. DOI: 10.1109/JSTSP.2015.2497211.

[J9] T. L. T. Nguyen, F. Septier, G. W. Peters, and Y. Delignon. "Efficient Sequential Monte-Carlo Samplers for Bayesian Inference". In: *IEEE Transactions on Signal Processing* 64 (5), Mar. 2016, pp. 1305–1319. DOI: 10.1109/TSP.2015.2504342.

[J10] A. Carmi, L. Mihaylova, and F. Septier. "Subgradient-based Markov Chain Monte Carlo particle methods for discrete-time nonlinear filtering". In: *Signal Processing* 120, Mar. 2016, pp. 532–536. DOI: 10.1016/j.sigpro.2015.10.015.

[J11] I. Nevat, G. W. Peters, K. Avnit, F. Septier, and L. Clavier. "Location of Things: GeoSpatial Tagging for IoT using Time-of-Arrival". In: *IEEE Transactions on Signal and Information Processing over Networks*, 2016, pp. 1–13. DOI: 10.1109/TSIPN.2016.2531422.

[J12] H. Rajaona, F. Septier, P. Armand, Y. Delignon, C. Olry, A. Albergel, and J. Moussafir. "An adaptive Bayesian inference algorithm to estimate the parameters of a hazardous atmospheric release". In: *Atmospheric Environment* 122, Dec. 2015, pp. 748–762. DOI: 10.1016/j.atmosenv.2015.10.026.

[J13] I. Nevat, G. W. Peters, F. Septier, and T. Matsui. "Estimation of Spatially Correlated Random Fields in Heterogeneous Wireless Sensor Networks". In: *IEEE Transactions on Signal Processing* 63 (10), May 2015, pp. 2597–2609. DOI: 10.1109/TSP.2015.2412917.

[J14] L. Mihaylova, A. Carmi, F. Septier, A. Gning, S. K. Pang, and S. J. Godsill. "Overview of Bayesian sequential Monte Carlo methods for group and extended object tracking". In: *Digital Signal Processing* 25, Feb. 2014, pp. 1–16. DOI: 10.1016/j.dsp.2013.11.006.

[J15] N. Jaoua, E. Duflos, P. Vanheeghe, L. Clavier, and F. Septier. "Joint estimation of state and noise parameters in a linear dynamic system with impulsive measurement noise: Application to OFDM systems". In: *Digital Signal Processing*, 2014, pp. 1–16. DOI: 10.1016/j.dsp.2014.08.001.

[J16] A. Carmi, F. Septier, and S. J. Godsill. "The Gaussian mixture MCMC particle algorithm for dynamic cluster tracking". In: *Automatica*, July 2012, pp. 1–14. DOI: 10.1016/j.automatica.2012.06.086.

[J17] C. Garnier, Y. Delignon, H. El Ghazi, and F. Septier. "Spreading code allocation strategy for downlink multicarrier code division multiple access transmission in a correlated Rayleigh fading channel". In: *Wireless Communications and Mobile Computing*, Mar. 2012, pp. –. DOI: 10.1002/wcm.2222.

[J18] F. Septier and Y. Delignon. "MCMC sampling for joint estimation of phase distortions and transmitted symbols in OFDM systems". In: *Digital Signal Processing* 21 (2), Mar. 2011, pp. 341–353. DOI: 10.1016/j.dsp.2010.10.003.

[J19] H. El Ghannudi, L. Clavier, N. Azzaoui, F. Septier, and P.-a. Rolland. "Alpha-stable interference modeling and Cauchy receiver for an IR-UWB ad hoc network". In: *IEEE Transactions on Communications* 58 (6), June 2010, pp. 1748–1757. DOI: 10.1109/TCOMM.2010.06.090074.

[J20] F. Septier, Y. Delignon, A. Menhaj-Rivenq, and C. Garnier. "Pilot-Aided Sequential Monte Carlo Estimation of Phase Distortions and Transmitted Symbols in Multicarrier Systems". In: *Journal of Electrical and Computer Engineering* 2010, Jan. 2010, pp. 1–5. DOI: 10.1155/2010/536057.

[J21] F. Septier, Y. Delignon, A. Menhaj-Rivenq, and C. Garnier. "Monte Carlo Methods for Channel, Phase Noise and Frequency Offset Estimation with Unknown Noise Variances in OFDM Systems". In: *IEEE Transactions on Signal Processing* 56 (8), Aug. 2008, pp. 3613–3626. DOI: 10.1109/TSP.2008.919629.

[J22] F. Septier, Y. Delignon, A. Rivenq-Menhaj, and C. Garnier. "Non-Pilot-Aided Sequential Monte Carlo Method to Joint Signal, Phase Noise, and Frequency Offset Estimation in Multicarrier Systems". In: *EURASIP Journal on Advances in Signal Processing* 2008, Apr. 2008, pp. 1–14. DOI: 10.1155/2008/612929.

International conference papers

[C1] F. Septier and T. Matsui. "A Robust High-Dimensional Bayesian Filter: the Stochastic GH-GEnKF". In: *IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*. Le Gosier, France, Dec. 2019.

[C2] F. Septier, C. Duchenne, and P. Armand. "Application of the Bayesian approach and inverse dispersion modelling to source term estimates in built-up environments". In: *19th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes (HARMO)*. Bruges, Belgium, June 2019.

[C3] I. Nevat, F. Septier, K. Avnit, G. W. Peters, and L. Clavier. "Joint Localization and Clock Offset Estimation via Time-Of-Arrival with Ranging Offset". In: *26th European Signal Processing Conference (EUSIPCO)*. Roma, Italy, Sept. 2018, pp. 672–676.

[C4] R. Lamberti, Y. Petetin, F. Septier, and F. Desbouvries. "A double proposal normalized importance sampling estimator". In: *IEEE Workshop on Statistical Signal Processing (SSP)*. Freiburg, Germany, June 2018.

[C5] T. A. Myrvoll, J. E. Hakegard, T. Matsui, and F. Septier. "Counting Public Transport Passenger Using WiFi Signatures of Mobile Devices". In: *IEEE 20th International Conference on Intelligent Transportation Systems ITSC*. Yokohama, Japan, Oct. 2017, pp. 1–6.

[C6] R. Lamberti, Y. Petetin, F. Septier, and F. Desbouvries. "An improved SIR-based sequential Monte Carlo algorithm". In: *IEEE Workshop on Statistical Signal Processing SSP*. Palma de Majorca, Spain, June 2016.

[C7] H. Rajaona, F. Septier, Y. Delignon, P. Armand, C. Olry, and A. Albergel. "A Bayesian approach of the Source Term Estimate coupling retro-dispersion computations with a Lagrangian Particle Dispersion Model and the Adaptive Multiple Importance Sampling". In: *17th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes (HARMO 17)*. Budapest, May 2016.

[C8] R. Lamberti, Y. Petetin, F. Septier, and F. Desbouvries. "Particle Filters with Independent Resampling". In: *IEEE International Conference on Acoustics, Speech and Signal Processing*. Shanghai, China, Mar. 2016.

[C9] K. Markov, T. Matsui, F. Septier, and G. W. Peters. "Dynamic Speech Emotion Recognition with State-Space Models". In: *23rd European Signal Processing Conference (EUSIPCO)*. Nice, France, Aug. 2015.

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