

François Septier

Maître de Conférences

IMT Lille Douai, CRISAL UMR CNRS 9189

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Emplois occupés

Depuis Jan. **Responsable Adjoint Chargé de la Recherche.**

2017 - ... Département "Systèmes de Communication" IMT Lille Douai

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

Sept. 2015 **Délégation Institut Mines-Télécom - Visiting Associate Professor.**

Sept. 2014 Department of Statistical Science, University College London (UCL), UK

Depuis Sept. **Maître de Conférences.**

2009 - ... IMT Lille Douai (Ex-Télécom Lille) / CRISAL UMR CNRS 9189, France

Août 2009 **Chercheur post-doctoral.**

Mars 2008 Laboratoire Traitement de Signal, University of Cambridge, UK

Fév. 2008 **Attaché temporaire d'enseignement et de recherche.**

Oct. 2007 Institut des Sciences et Techniques de Valenciennes (ISTV), France

Sep. 2007 **Allocataire de Recherche.**

Sep. 2004 Institut d'Electronique, de Microelectronique et de Nanotechnologie (IEMN) et Télécom Lille, France

Sep. 2007 **Moniteur de l'Education Nationale.**

Sep. 2004 Institut des Sciences et Techniques de Valenciennes (ISTV), France

Parcours académique

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 Hainaut-Cambrésis (UVHC), France

Juin 2004 **Master Recherche "Signal et Télécommunications".**

Université de Valenciennes et du Hainaut-Cambrésis (UVHC), France

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

Télécom Lille, France

Enseignements

2009–... **Télécom Lille.**

Signaux déterministes et aléatoires, Statistiques, Apprentissage, Communications numériques, VHDL.

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 2015 **Coordinateur de l'UV "Data Science".**

5ème année de Télécom Lille1 (≈ 100h)

Depuis 2012 **Coordinateur de l'UV "Signal & Communications".**

3ème année de Télécom Lille1 (≈ 100h)

Depuis 2009 **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

- Mars 2015-... Roland Lamberti, co-encadré (33%) avec Prof. François Desbouvries (Telecom sudParis) and Dr. Yohan Petetin (CEA/LIST).
“Inférence Bayésienne en Grande Dimension”
- 2013-2016 Harizo Rajaona, co-encadré (50%) avec Prof. Yves Delignon et financée par CEA/DAM & ARIA Technologies.
“Méthodes d’estimation pour la recherche de sources NRBC”
- 2011-2014 Thi Le Thu Nguyen, co-encadrée (50%) avec Prof. Yves Delignon.
“Sequential Monte-Carlo Sampler for Bayesian Inference in Complex Systems”

Post-docs

- 2011–2012 Adrien Ickowicz, 14 mois (now Research Scientist at CSIRO, Australie).
“Méthodes statistiques pour l’estimation de sources polluantes”
- 2011 Nghi Truong Cong, 9 mois (now Lecturer, Ho Chi Minh City University of Technology, Vietnam).
“Poursuite multi-cibles dans des séquences vidéo”

Master

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

Projets de recherche

- 2017-2021 **ANR JCJC Project**.
“BoB - Bayes on a Budget - big data and expensive models”
Partners: Painleve (Univ. Lille), CRISAL (Centrale Lille/INRIA/IMT Lille Douai).
- 2017-2021 **ANR Project**.
“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 of Singapore et A*STAR**, Responsable.
“Statistical Models and Methods for Urban Air Pollution Forecasting using Participatory Sensing” Partenaires: A*STAR (Singapore) and CRISAL
- 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**.
“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 **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)
- 2011-2013 **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**.
"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**.
"Sequential Monte-Carlo methods"
Animateur du groupe de travail "Multitarget Tracking"

Visites et séjours scientifiques

- Jul. 2016 **Department of Statistical Modeling, Institute of Statistical Mathematics, Japan**, 4 weeks.
- Jul. 2015 **Department of Statistical Modeling, Institute of Statistical Mathematics, Japan**, 4 weeks.
- 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. 2014 **Department of Statistical Modeling, Institute of Statistical Mathematics, Japan**, 4 semaines.
- 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

- 2013-... **Membre du comité de pilotage du réseau thématique**, Institut Mines-Télécom : "Mathématiques appliquées et informatique fondamentale".
- 2013-... **Co-animateur de l'action "Méthodes de simulation stochastique" au sein du GDR-ISIS**.
- 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*.

Comités d'évaluations et d'expertises

Membre de comités de programme de conférences

- 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

- 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

- 05/2014 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.

Evaluations de projets académiques

- 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-Iltzhack Memorial Symposium on Estimation, Navigation, and Spacecraft Control 2012", ISSPA 2010.

Affiliations

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

Séminaires et exposés invités

- 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 Seminar, Institute for Infocomm Research (I²R)-A*STAR, Singapore.
"New Perspectives on Multiple Source Localization in Wireless Sensor Networks" (1h)
- 10/2014 Seminar, 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 Seminar BigMC - Institut Henri Poincaré, Paris, France.
"Bayesian Filtering in High-Dimensional Spaces using Sequential MCMC"
- 05/2009 Laboratoire L2S, Gif-sur-Yvette.
"Méthodes particulières 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 particulières pour la poursuite et la détection de cibles"

Publications

Preprints

- [P6] R. Lamberti, Y. Petetin, F. Desbouvries and F. Septier,, "*Independent Resampling Sequential Monte Carlo Algorithms*", submitted to an IEEE journal - arXiv:1607.05758 .
- [P5] 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 .
- [P4] 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.
- [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.
- [P2] 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.
- [P1] 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.

Book Chapters

- [B4] F. Septier and G. W. Peters, "*SMC-ABC methods for the estimation of stochastic simulation models of the limit order book*", A chapter in *Handbook of Approximate Bayesian Computation* edited by S. A. Sisson, Y. Fan and M. Beaumont, Chapman and Hall/CRC, 2016, ISBN 9781439881507 - - arXiv:1504.05806.
- [B3] F. Septier and G. W. Peters, "*An Overview of Recent Advances in Monte-Carlo Methods for Bayesian Filtering in High- Dimensional Spaces*", A Chapter in "Theoretical Aspects of Spatial-Temporal Modeling", edited by G. W. Peters and T. Matsui, Eds. SpringerBriefs - JSS Research Series in Statistics, 2015, ISBN 978-4-431-55335-9..
- [B2] A. Carmi, L. Mihaylova, F. Septier, S. K. Pang, P. Gurfil and S. J. Godsill, "*Inferring Leadership from Group Dynamics Using Markov Chain Monte Carlo Methods*", A Chapter in "Modeling, Simulation and Visual Analysis of Crowds: A Multidisciplinary Perspective", edited by S. Ali, K. Nishino, D. Manocha and M. Shah. Springer, pp. 325-346, Dec. 2013, The International Series in Video Computing Volume 11, ISBN 978-1461484820..
- [B1] S. K. Pang, F. Septier, J. Li, S. Godsill, and S. Hill, "*Sequential Inference for Dynamically Evolving Groups of Objects*", A Chapter in "Bayesian Time Series Models", edited by D. Barber, A.T. Cemgil and S. Chiappa. Cambridge University Press, ISBN 9780521196765, 2011.

Journal Papers

- [J17] M. Hawes, L. Mihaylova, F. Septier and S. J. Godsill, "*Bayesian Compressive Sensing Approaches for Direction of Arrival Estimation with Mutual Coupling Effects*", to appear in IEEE Transactions on Antennas and Propagation, 2017.
- [J16] I. Nevat, G.W. Peters, K. Avnit, F. Septier and L. Clavier, "*Location of Things: Geospatial Tagging for IoT Using Time-of-Arrival*", IEEE Transactions on Signal and Information Processing over Networks, vol. 2, no. 2, pp. 174-185, Feb. 2016. doi: 10.1109/TSIPN.2016.2531422.
- [J15] F. Septier and G.W. Peters,, "*Langevin and Hamiltonian Based Sequential MCMC for Efficient Bayesian Filtering in High-Dimensional Spaces*", to appear in IEEE Journal of Selected Topics in Signal Processing, Special issue on Stochastic Simulation and Optimisation in Signal Processing - Oct. 2015 - doi: 10.1109/JSTSP.2015.2497211 - arXiv:1504.05715.
- [J14] T.L.T. Nguyen, F. Septier, G.W. Peters and Y. Delignon,, "*Efficient Sequential Monte-Carlo Samplers for Bayesian Inference*", to appear in IEEE Transactions on Signal Processing - doi: 10.1109/TSP.2015.2504342 - arXiv:1504.05753.

- [J13] 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*", to appear in IEEE Transactions on Signal Processing - doi: 10.1109/TSP.2015.2505689 - arXiv:1504.05837.
- [J12] A. Carmi, L. Mihaylova and F. Septier,, "*Subgradient-Based Markov Chain Monte Carlo Particle Methods for Discrete-time Nonlinear Filtering*", to appear in Signal Processing - Oct. 2015. doi:10.1016/j.sigpro.2015.10.015.
- [J11] H. Rajaona, F. Septier, P. Armand, Y. Delignon, C. Orly, A. Albergel and J. Moussafir,, "*An adaptive Bayesian inference algorithm to estimate the parameters of a hazardous atmospheric release*", Atmospheric Environment, vol. 122, pp. 748-762, Dec 2015, doi:10.1016/j.atmosenv.2015.10.026.
- [J10] I. Nevat, G.W. Peters, F. Septier and T. Matsui, "*Estimation of Spatially Correlated Random Fields in Heterogeneous Wireless Sensor Networks*", IEEE Transactions on Signal Processing, vol. 63, no. 10, pp. 2597-2609, May 2015. doi: 10.1109/TSP.2015.2412917.
- [J9] L. Mihaylova, A. Carmi, F. Septier, A. Gning, S. K. Pang and S. Godsill, "*Overview of Bayesian Sequential Monte Carlo Methods for Group and Extended Object Tracking*", Digital Signal Processing, Elsevier, Vol 25, 2014. doi: 10.1016/j.dsp.2013.11.006.
- [J8] 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*", Digital Signal Processing, Elsevier, 2014. doi: 10.1016/j.dsp.2014.08.001.
- [J7] A. Carmi, F. Septier, and S. Godsill, "*The Gaussian Mixture MCMC Particle Algorithm for Dynamic Cluster Tracking*", Automatica, Volume 48, Issue 10, October 2012, pp 2454-2467, ISSN 0005-1098, doi: 10.1016/j.automatica.2012.06.086.
- [J6] 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*", Wireless Communications and Mobile Computing, 2012 doi: 10.1002/wcm.2222.
- [J5] F. Septier and Y. Delignon, "*MCMC Sampling for Joint Estimation of Phase Distortions and Transmitted Symbols in OFDM Systems*", Digital Signal Processing (Elsevier), Vol 21, n°2, pp 341-353 , Mar. 2011. doi:10.1016/j.dsp.2010.10.003.
- [J4] H. El Ghannudi, L. Clavier, N. Azzaoui, F. Septier, and P. A. Rolland, " *α -stable interference modeling and improved receivers for an IR-UWB ad hoc network*", IEEE Transactions on Communications, Vol 58, n°6, pp 1748-1757 , Jun. 2010. doi: 10.1109/TCOMM.2010.06.090074.
- [J3] 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*", Journal of Electrical and Computer Engineering, vol. 2010, Article ID 536057, 5 pages, doi:10.1155/2010/536057.
- [J2] 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*", IEEE Transactions on Signal Processing, Vol 56, n°8, pp 3613-3626 , Aug. 2008 doi: 10.1109/TSP.2008.919629.
- [J1] F. Septier, Y. Delignon, A. Menhaj-Rivenq, and C. Garnier, "*Nonpilot-Aided Sequential Monte-Carlo Method to Joint Signal, Phase Noise and Frequency Offset Estimation in Multicarrier Systems*", Eurasip Journal on Advances in Signal Processing, vol. 2008, Article ID 612929, 14 pages, 2008. doi:10.1155/2008/612929.

Conference Papers

- [C44] R. Lamberti, Y. Petetin, F. Septier and F. Desbouvries, "*An improved SIR-based sequential Monte Carlo algorithm*", IEEE Workshop on Statistical Signal Processing SSP. Palma de Majorca, Spain, juin 2016.
- [C43] H. Rajaona, F. Septier, Y. Delignong, P. Armand, C. Orly 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*", 17th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes (HARMO 17). Budapest, mai 2016.

- [C42] R. Lamberti, Y. Petetin, F. Septier and F. Desbouvries, *Particle Filters with Independent Resampling*, IEEE International Conference on Acoustics, Speech and Signal Processing. Shanghai, China, mar. 2016.
- [C41] K. Markov, T. Matsui, F. Septier and G. W. Peters, *“Dynamic Speech Emotion Recognition with State-Space Models”*, 23rd European Signal Processing Conference (EUSIPCO), Sept. 2015, Nice, France.
- [C40] M. O. Ameziane, C. Garnier, Y. Delignon, E. Duflos and F. Septier, *“Particle filtering with a soft detection based near-optimal importance function for visual tracking”*, 23rd European Signal Processing Conference (EUSIPCO), Sept. 2015, Nice, France.
- [C39] Q. T. Nguyen, Y. Delignon, L. Chagas and F. Septier, *“Modélisation de points imprimés à l'échelle micro-métrique”*, XXVème Colloque GRETSI, Sept. 2015, Lyon, France.
- [C38] M. O. Ameziane, C. Garnier, Y. Delignon, E. Duflos and F. Septier, *“Filtrage particulière avec une loi de proposition quasi-optimale utilisant la détection souple pour le suivi visuel”*, XXVème Colloque GRETSI, Sept. 2015, Lyon, France.
- [C37] A. De Freitas, F. Septier, L. Mihaylova and S. Godsill, *“How Can Subsampling Reduce Complexity in Sequential MCMC Methods and Deal with Big Data in Target Tracking?”*, Int. Conf. on Information Fusion (FUSION), July 2015, Washington D.C., USA.
- [C36] M. B. Hawes, L. Mihaylova, F. Septier and S. Godsill, *“A Bayesian Compressed Sensing Kalman Filter for Direction of Arrival Estimation”*, Int. Conf. on Information Fusion (FUSION), July 2015, Washington D.C., USA.
- [C35] O. Isupova, L. Mihaylova, D. Kuzil, G. Markarian and F. Septier, *“An Expectation Maximisation Algorithm for Behaviour Analysis in Video”*, Int. Conf. on Information Fusion (FUSION), July 2015, Washington D.C., USA.
- [C34] I. Nevat, G. W. Peters, F. Septier and T. Matsui, *“Wind Storm Estimation using a Heterogeneous Sensor Network with High and Low Resolution Sensors”*, IEEE International Conference on Communications (ICC), June 2015, London, UK.
- [C33] X. Yan, L. Clavier, G. W. Peters, N. Azzaoui, F. Septier and I. Nevat, *“Skew-t copula for dependence modelling of impulsive (α -stable) interference”*, IEEE International Conference on Communications (ICC), June 2015, London, UK.
- [C32] R. Lamberti, F. Septier, N. Salman and L. Mihaylova, *“Sequential Markov Chain Monte Carlo for multi-target tracking with correlated RSS measurements”*, 2015 IEEE Tenth International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP), Apr. 2015, Singapore.
- [C31] G. W. Peters, T. A. Myrvoll, T. Matsui, F. Septier and I. Nevat, *“Communications Meets Copula Modeling: Non-Standard Dependence Features in Wireless Fading Channels”*, IEEE Global Conference on Signal and Information Processing (GlobalSIP), Dec 2014, Atlanta, Georgia, United States.
- [C30] H. Rajaona, P. Armand, F. Septier, Y. Delignon, C. Olry and J. Moussafir, *“Estimating Source Term Parameters through Probabilistic Bayesian inference: An Approach based on an Adaptive Multiple Importance Sampling Algorithm”*, 16th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes (HARMO 16), Sep 2014, Varna, Bulgaria.
- [C29] T.L.T. Nguyen, F. Septier, G. W. Peters and Y. Delignon, *“Improving SMC Sampler Estimate by Recycling All Past Simulated Particles”*, IEEE Workshop on Statistical Signal Processing (SSP 14), Jun 2014, Gold Coast, Australia.
- [C28] N. Jaoua, F. Septier, E. Duflos and P. Vanheeghe, *“State and impulsive time-varying measurement noise density estimation in nonlinear dynamic systems using Dirichlet Process Mixtures”*, IEEE International Conference on Acoustics, Speech, and Signal Processing, Florence, Italy, May 2014.
- [C27] G. W. Peters, I. Nevat, L. Clavier and F. Septier, *“Distributional Upper Bound on the Interference in Spatial Wireless Multiuser Ultrawideband Communication Systems”*, IEEE International Conference on Acoustics, Speech, and Signal Processing, Florence, Italy, May 2014.
- [C26] Q. T. Nguyen, Y. Delignon, L. Chagas and F. Septier, *“Printer Identification from Micro-metric Scale Printing”*, IEEE International Conference on Acoustics, Speech, and Signal Processing, Florence, Italy, May 2014.

- [C25] I. Nevat, O. Eger, G. W. Peters and F. Septier, "*NEPS: "Narrowband Efficient Positioning System" for Delivering Resource Efficient GNSS Receivers*", 2014 IEEE Ninth International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP), Apr. 2014, Singapore.
- [C24] Y. Delignon, Q. T. Nguyen, L. Chagas and F. Septier, "*Printer technology authentication from micro-metric scan of a single printed dot*", IS&T/SPIE Electronic Imaging, Feb. 2014, San Francisco.
- [C23] T. L. T. Nguyen, F. Septier, G. W. Peters and Y. Delignon, "*Bayesian Model Selection and Parameter Estimation in Penalized Regression Model Using SMC Samplers*", 21st European Signal Processing Conference (EUSIPCO), Sept. 2013, Marrakech, Morocco.
- [C22] N. Jaoua, E. Duflos, P. Vanheeghe and F. Septier, "*Estimation bayésienne non paramétrique de l'état et du bruit impulsif dans les systèmes dynamiques non linéaires*", XXIVème Colloque GRETSI, Sept. 2013, Brest, France.
- [C21] F. Septier, G. W. Peters and I. Nevat, "*Bayesian Filtering with Intractable Likelihood using Sequential MCMC*", IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Vancouver, Canada, May 2013.
- [C20] N. Jaoua, E. Duflos, P. Vanheeghe and F. Septier, "*Bayesian Nonparametric State and Impulsive Measurement Noise Density Estimation in Nonlinear Dynamic Systems*", IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Vancouver, Canada, May 2013.
- [C19] A. Ickowicz, F. Septier, P. Armand and Y. Delignon, "*Adaptive Bayesian Algorithms for the Estimation of Source Term in a Complex Atmospheric Release*", 15th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purpose, Madrid, Spain, May 2013.
- [C18] W. Gu, G. Peters, L. Clavier, F. Septier, and I. Nevat, "*Receiver study for cooperative communications in convolved additive α -stable interference plus Gaussian thermal noise*", Ninth International Symposium on Wireless Communication Systems, Paris, France, Aug. 2012.
- [C17] A. Ickowicz, F. Septier, and P. Armand, "*Estimating a CBRN Atmospheric Release in a Complex Environment using Gaussian Processes*", Proc. Int. Conf. on Information Fusion (FUSION 2012), Singapore, Jul. 2012.
- [C16] D. N. Truong Cong, F. Septier, C. Garnier, L. Khoudour, and Y. Delignon, "*Robust Visual Tracking via MCMC-based Particle Filter*", IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP'12), Kyoto, Japan, Mar. 2012.
- [C15] A. Carmi, L. Mihaylova, F. Septier, S. K. Pang, and S. Godsill, "*MCMC-Based Tracking and Identification of Leaders in Groups*", IEEE Workshop on Modeling, Simulation and Visual Analysis of Large Crowds (in conjunction with ICCV), Nov. 2011.
- [C14] H. K. Khalil, L. Clavier, F. Septier, L. Marsalle, and G. Castellán, "*Performance of an Optimal Receiver in the Presence of Alpha-Stable and Gaussian Noises*", IEEE International Workshop on Statistical Signal Processing (SSP), Nice, France, Jun. 2011.
- [C13] F. Septier, J. Cornebise, S. Godsill, and Y. Delignon, "*A Comparative Study of Monte-Carlo Methods for Multitarget Tracking*", IEEE International Workshop on Statistical Signal Processing (SSP), Nice, France, Jun. 2011.
- [C12] N. Jaoua, E. Duflos, P. Vanheeghe, L. Clavier, and F. Septier, "*Impulsive Interference Mitigation in Ad-hoc Networks based on Alpha-Stable Modeling and Particle Filtering*", IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP'11), May 2011.
- [C11] N. Dridi, Y. Delignon, F. Septier, and W. Sawaya, "*1D Barcode Blind Detection in Severe Environment*", Proc. IEEE Globecom, Miami, Florida, USA, Dec. 2010.
- [C10] F. Septier, S. K. Pang, A. Carmi, and S. J. Godsill, "*On MCMC-Based Particle Methods for Bayesian Filtering: Application to Multitarget Tracking*", Proc. International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP 2009), Aruba, Dutch Antilles, December 2009.
- [C9] F. Septier, A. Carmi, and S. J. Godsill, "*Tracking of Multiple Contaminant Clouds*", Proc. Int. Conf. on Information Fusion (Fusion 2009), Seattle, USA, July 2009, (Winner of third best regular paper award).
- [C8] A. Carmi, F. Septier, and S. J. Godsill, "*The Gaussian Mixture MCMC Particle Algorithm for Dynamic Cluster Tracking*", Proc. Int. Conf. on Information Fusion (Fusion 2009), Seattle, USA, July 2009.

- [C7] F. Septier, A. Carmi, S. K. Pang, and S. J. Godsill, “*Multiple Object Tracking Using Evolutionary and Hybrid MCMC-Based Particle Algorithms*”, 15th IFAC Symposium on System Identification, (SYSID 2009), Saint-Malo, France, July 6-8, 2009.
- [C6] F. Septier, S. K. Pang, S. J. Godsill, and A. Carmi, “*Tracking of Coordinated Groups using Marginalised MCMC-based Particle Algorithm*”, IEEE Aerospace Conference, Big Sky, Montana March 7-14, 2009.
- [C5] A. Carmi, S. J. Godsill, and F. Septier, “*Evolutionary MCMC Particle Filtering for Target Cluster Tracking*”, IEEE 13th DSP Workshop and the 5th SPE Workshop, Marco Island, Florida, January 4-7, 2009.
- [C4] F. Septier, Y. Delignon, A. Menhaj-Rivenq, and C. Garnier, “*OFDM channel estimation in the presence of phase noise and frequency offset by particle filtering*”, IEEE International Conference on Acoustics, Speech and Signal Processing, 2007. (IEEE ICASSP'07), Honolulu, Hawaii, 15-20 April 2007, Vol. 3, pp289-292.
- [C3] F. Septier, Y. Delignon, A. Menhaj-Rivenq, and C. Garnier, “*Particle filtering with hybrid importance function for joint symbol detection and phase tracking*”, IEEE 7th Workshop on Signal Processing Advances in Wireless Communications, 2006. (IEEE SPAWC '06), Cannes, France, 2-5 July 2006, pp1-5.
- [C2] F. Septier, Y. Delignon, A. Menhaj-Rivenq, and C. Garnier, “*Estimation séquentielle et conjointe du bruit de phase, de l'offset en fréquence et des symboles émis dans les systèmes OFDM*”, Traitement et Analyse de l'Information : Méthodes et Applications (TAIMA), Hammamet, Tunisia, May 4-9 2009.
- [C1] F. Septier, Y. Delignon, A. Menhaj-Rivenq, and C. Garnier, “*Traitement du bruit de phase par filtrage particulière en communication numérique*”, Traitement et Analyse de l'Information : Méthodes et Applications (TAIMA), Hammamet, 26 Sep.-1 Oct 2005, pp. 9-18.

Technical Reports

- [R5] A. Ickowicz, F. Septier, and P. Armand, “*Recherche de sources NRBC dans des environnements atmosphériques complexes par méthodes de Monte-Carlo adaptatives - Applications à un quartier parisien*”, CEA, Tech. Rep. , Jan. 2013.
- [R4] A. Ickowicz, F. Septier, and P. Armand, “*Méthodes de Monte-Carlo adaptatives pour la caractérisation de termes sources*”, CEA, EOTP A-25800-06-20-20-A2 , Tech. Rep. , Mar. 2012.
- [R3] A. Ickowicz, F. Septier, and P. Armand, “*Statistic Estimation for Particle Clouds with Lagrangian Stochastic Algorithms*”, CEA, EOTP A-24300-01-01-AW-20 , Tech. Rep. , Nov. 2011.
- [R2] F. Septier and S. J. Godsill, “*Contour Tracking using Parametric Level Set Functions*”, Technical Report, Tracking Cluster Project, Phase III, Data and Information Fusion - Defence Technology Centre (DIF-DTC), April 2009.
- [R1] F. Septier and S. J. Godsill, “*Source Term Estimation and Plume Tracking*”, Technical Report, Tracking Cluster Project, Phase III, Data and Information Fusion - Defence Technology Centre (DIF-DTC), March 2009.

Theses

- [T2] F. Septier, “*Sequential Monte-Carlo Methods for Multicarrier Systems in the Presence of Phase Distortion*”, Ph.D. dissertation, University of Valenciennes / TELECOM Lille1, France, May 2008.
- [T1] F. Septier, “*Pairwise Markov and Particle Filtering in Digital Communications*”, M.Sc. thesis, University of Valenciennes / TELECOM Lille1, France, Jun. 2004.