

François Septier

Full Professor

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Positions

- From Sept. 2018 **Full Professor.**
Université Bretagne Sud (CNU 26) - Laboratory of Mathematics of Atlantic Brittany (LMBA) UMR CNRS 6205
- Sept. 2009 - Aug. 2018 **Associate-Professor.**
IMT Lille Douai (ex-Télécom Lille) / CRISTAL UMR CNRS 9189, France
- ↔ 09/2014 - 09/2015 **One year sabbatical - Visiting Associate Professor.**
Department of Statistical Science, University College London (UCL), UK
- Aug. 2009 Mar. 2008 **Research Associate.**
Signal Processing Laboratory, University of Cambridge, UK
- Feb. 2008 Oct. 2007 **Research/Teaching Assistant.**
ATER in french at Institut des Sciences et Techniques de Valenciennes (ISTV), France
- Sep. 2007 Sep. 2004 **Research Assistant.**
Institut d'Electronique, de Microelectronique et de Nanotechnologie (IEMN) et Télécom Lille, France
- Sep. 2007 Sep. 2004 **Teaching Assistant.**
Moniteur in french at Institut des Sciences et Techniques de Valenciennes (ISTV), France

Academic Background

- Dec 2017 **Habilitation à Diriger les Recherches (HDR).**
University of Lille, France
- May 2008 **Ph.D. in "Statistical Signal Processing".**
University of Valenciennes et du Hainault-Cambrésis (UVHC), France
- June 2004 **M.Sc. in "Signal and Telecommunications".**
University of Valenciennes et du Hainault-Cambrésis (UVHC), France
- Juin 2004 **Eng. Degree Télécom Lille.**
Télécom Lille, France

Main Responsibilities

- From 2022 **Nominated member - National Council of Universities (CNU) .**
Section 26 - *Applied Mathematics*
- From 12/2022 **Director of the Department of Mathematics and Statistics.**
Faculty of Sciences and Engineering Sciences, Université Bretagne Sud
- From 05/2022 **Deputy Director of the Laboratory of Mathematics of Atlantic Brittany (LMBA) UMR CNRS 6205 and Head of the laboratory for the Université Bretagne Sud.**
- From 2022 **Elected member - Council of the Faculty of Sciences and Engineering Sciences.**
Université Bretagne Sud
- From 01/2021 **Project Manager in charge of Intelligence Artificielle.**
Université Bretagne Sud
- From 01/2020 **Associate Editor, Signal Processing (Elsevier).**

- From 2020 **Co-responsible of the Master “Applied Mathematics & Statistics”**.
Université Bretagne Sud
- From 2020 **Elected member of Mathematics, Computer Science & Statistics Department Council**.
Université Bretagne Sud
- From 2018 **Responsible of the studies - Master 2 Data Science & Statistical Modeling**.
Université Bretagne Sud
- Jan. 2017 - Aug. 2018 **Deputy Head for Research** .
Communication Systems Department of IMT Lille Douai
- 2015-2016 **Research Coordinator at Télécom Lille**.
- 2015-2018 **Responsible of “Data Science”**.
5th year Télécom Lille ($\approx 100h$)
- 2012-2018 **Responsible of “Signal & Communications”**.
3rd year Télécom Lille ($\approx 100h$)

Teaching Experiences

- From 2018 **Université Bretagne Sud, France**.
Statistics, Estimation, Regression, Statistical Learning, Machine Learning.
- 2009-2018 **IMT Lille Douai, France**.
Signal Processing, Statistics, Statistical Machine Learning, Probability.
- 2010-2012 **Institut des Sciences et Techniques de Valenciennes (ISTV), France** .
Statistical Signal Processing.

Distinction and Awards

- 2019-... Holder, French Ministry of Research “Prime d’Encadrement Doctoral et de Recherche” (PEDR), now RIPEC C3.
- 2015 “Best Paper Award”, Conference IEEE ISSNIP.
- 2009 Finalist of “Best Regular Paper Award”, 3rd rank, Conference FUSION.
- 2004-2007 Recipient, French Ministry of Research doctoral scholarship.

Supervision

Ph.D. Thesis

- 2023-... **Héloïse Rozier**, co-supervised (33%) with Pierre Gloaguen (UBS) and Sébastien Boyer (Institut Pasteur, Cambodge, UK) .
“Statistical modelling of the spatio-temporal distribution of mosquito species in Cambodia”
- 2023-... **Nathan Leveque**, co-supervised (25%) with Audrey Poterie (UBS), Emmanuel Frénod (UBS) and Mourad Yahia Bacha (Safran Aircraft Engines) .
“Statistical methods to detect and explain abnormal behavior during engine testing”
- 2020-... **Samir Orujov**, co-supervised (50%) with Audrey Poterie (UBS) and Victor Elvira (Univ. Edinburgh, UK) .
“On the combination of statistical models and neural networks for time-series modeling”
- 2020-2023 **Clément Bonet**, co-supervised (33%) with Nicolas Courty (UBS) and Lucas Drumetz.
“Leveraging Optimal Transport via Projections on Subspaces for Machine Learning Applications”
Publications: [C1, J5, J8, C3]
- 2019-2023 **Romeo Tayewo**, supervised (100%).
“Decision Making on Spatio-temporal Stochastic Processes with Environmental Applications”
Publications: [J3]
- 2018-2022 **Min Rui**, co-supervised (33%) with Christelle Garnier (IMT Lille Douai) and John Klein (Univ. Lille).
“Models and Monte-Carlo methods for tracking in high dimensional spaces”
Publications: [J4, C4, C6]
Current Position: Postdoctoral Researcher with Nicolas Chopin and Andras Fulop

- 2015-2018 **Roland Lamberti**, co-supervised (33%) with Prof. François Desbouvries and Dr. Yohan Petetin (Telecom SudParis).
 “Contributions to Monte Carlo methods and their application to statistical filtering”
Publications: [J13–J15, CN2, C12, C14, C22]
- 2013-2016 **Harizo Rajaona**, co-supervised (60%) with Prof. Yves Delignon - In collaboration with CEA/DAM & ARIA Technologies.
 “Source Term Estimation Methods”
Publications: [C13, J17, J22, C24]
Current Position: Data Scientist chez Dataiku [[lien](#)]
- 2011-2014 **Thi Le Thu Nguyen**, co-supervised (50%) with Prof. Yves Delignon.
 “Sequential Monte Carlo Sampler for Bayesian Inference in Complex Systems”
Publications: [J17, J19, C25, C31]
Current Position: Assistant Professor, Department of Mathematics and Statistics, University of Maryland Baltimore County (USA)
- [Post-docs](#)
- 2019-2021 **Victor Watson**, (24 months) in collaboration with CEA.
 “Statistical Methods for Pollutant Event Detection”
Publications: [J1, C2, J6, C5]
Current Position: Postdoctoral Researcher at Berkeley Lab, USA
- 2011–2012 **Adrien Ickowicz**, 14 months.
 “Statistical Methods for Pollutant Source Term Estimation”
Publications: [C34, R2, C36, R3, R4]
Current Position: Senior Research Scientist at CSIRO, Australia
- 2011 **Nghi Truong Cong**, 9 months.
 “Multi-Object Tracking in video sequences”
Publications: [C37]
Current Position: Lecturer, Ho Chi Minh City University of Technology, Vietnam
- [Master](#)
- 2022 **Cesar Aybar**, Copernicus Master in Digital Earth, Erasmus Mundus Univ. Bretagne Sud/Olomouc University.
 “On Gaussian Processes for Cloud Cover Prediction”
- 2010 **Bassam El Hajj Chehade**, Research Master Lille Univ. “Automatique, Génie Informatique et Image”.
 “Multi-Object Tracking in video sequences”

Research Projects

- 2024 **Research contract**, Principal Investigator.
 “Taking data uncertainty into account for solving the maritime routing problem”
 Partners: Marine Weather Intelligence (MWI)
- 2020-2024 **Research Project, Labex Cominlabs**, Participant.
 “Dynamical Modeling for Machine Learning” (DynaLearn)
 Partners: IRISA/Lab-STICC/LaTIM/LETG
- 2020-2023 **Research contract**, Principal Investigator.
 “On the combination of statistical models and neural networks for time-series modeling”
 Partner: Total
- 2018-2020 **Research contract**, Principal Investigator.
 “Sequential Statistical Methods for Source Term Estimation”
 Partners: CEA/DAM
- 2018-2022 **ANR JCJC Project**, Participant.
 “PISCES - Adaptive importance sampling methods for Bayesian inference in complex systems”
- 2017-2021 **ANR JCJC Project**, Participant.
 “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**, 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 **Project funded by the Institut français of Singapore and A*STAR**, Principal Investigator.
 “Statistical Models and Methods for Urban Air Pollution Forecasting using Participatory Sensing”
 Partners: A*STAR (Singapore) and CRISAL
- 2015 **Project funded by Institut Mines-Télécom**, Principal Investigator.
 “SMART: From data to knowledge: Statistical Modeling and Estimation of Heterogeneous Sensor Data”
 Partners : University College London (UK), Sheffield University (UK), A*STAR (Singapore)
- 2013-2017 **ANR Project**, Participant.
 “BNPSI - Bayesian NonParametric methods for Signal and Image processing”
<https://project.inria.fr/bnpsi/>
 Partners: Alea Team (INRIA Bordeaux), IMS (University of Bordeaux), IRIT (University of Toulouse), CEA-LIST.
- 2012-2013 **Research contract**, Principal Investigator.
 “Statistical Methods for Source Term Estimation”
 Partners: CEA/DAM
- 2012 **BQR Project funded by University of Lille1 and Ecole centrale de Lille**, Co-Principal Investigator.
 “Models and Methods for Sensor Networks”
 Partners: P. Painlevé Lab. (University of Lille1), IRCICA Lab. (University of Lille1)
- 2011-2012 **Project funded by GIS 3SGS and CEA**, Principal Investigator.
 “Statistical Methods for Source Term Estimation”
 Partners: LM2S Lab. (Troyes University of Technology), CEA/DAM
- 2011 **Project funded by Institut Mines-Télécom**, Principal Investigator.
 “Multiple objects tracking in video”
 Partner : IFFSTAR
- 2008-2009 **Project funded by DIF/DTC, UK**, Participant.
 “Cluster Project on Target Tracking”
 Partners: Bristol University, Cambridge University, Imperial College London and QinetiQ
- 2008-2009 **Project funded by the Statistical and Applied Mathematical Sciences Institute, USA**, Participant.
 “Sequential Monte-Carlo methods”
 Leader of the working group “Multitarget Tracking”

Visiting Positions

- 2014-2019,2023 **Department of Statistical Modeling, Institute of Statistical Mathematics, Japan**, 4 weeks per year.
- 11/14 - 07/15 **Department of Statistical Science, University College London, UK**, 8 months.
- 10/14 - 11/14 **Department of Automatic Control and Systems Engineering, Sheffield University, UK**, 2 months.
- Aug. 2013 **Department of Statistical Modeling, Institute of Statistical Mathematics, Japan**, 2 weeks.
- Dec. 2012 **Department of Statistical Science, University College of London, UK**, 2 weeks.
- Mar. 2012 **Department of Engineering, University of New South Wales, Australia**, 1 month.
- Sept. 2008 **Statistical and Applied Mathematical Sciences Institute (SAMSI), USA**, 2 weeks.

Leading and Steering Activities

Leading activities

- 2013-... **Co-leader of the “Stochastic simulation methods” of the french research group GDR-ISIS.**
- 2013-2018 **Steering Committee of the research network**, Institut Mines-Télécom : “Applied Mathematics and Computer Science”.
- 2008-2009 **Leader of the working group “Multitarget Tracking”, Program “Sequential Monte-Carlo methods” Statistical and Applied Mathematical Sciences Institute, USA.**

Technical Program Committees

- 06/2022 CAp (*Conférence sur l'Apprentissage automatique*), Vannes, France.
- 06/2020 CAp (*Conférence sur l'Apprentissage automatique*), Vannes, France.
- 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, Vietnam.
- 09/2017 XXVleme colloque GRETSI, Juans-les-Pins, France.
- 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.

Conference Organization

- 2024 Co-organizer of the conference "Rencontres R" in Vannes (June 2024), 200 attendees - [lien] .
- 2023 Co-organizer of the 8-th Statistical Meetings at UBS - "Science des données : Mer & Littoraux" à Vannes, 100 attendees - [lien] .
- 2022 Co-organizer of the 7-th Statistical Meetings at UBS "Data Science: Climate and environmental applications" 70 attendees - [lien].
- 2021 Co-organizer One-day GDR-ISIS Workshop "Deep Learning and Generative Models for data uncertainty".
- 2020 Co-organizer One-day GDR-ISIS Workshop "Deep Learning and Generative Models for data uncertainty".
- 2018 Co-organizer One-day GDR-ISIS Workshop "Monte Carlo Sampling and Statistical Learning".
- 2017 Co-organizer of the special session "Interactions entre méthodes d'optimisation et algorithmes de simulation stochastique" at XXVleme colloque GRETSI, Juans-les-Pins.
- 2015 Co-organizer One-day GDR-ISIS Workshop "On the Interaction of Optimization and Monte-Carlo Methods" .
- 2014 Co-organizer One-day GDR-ISIS Workshop "Bayesian Filtering in High-Dimensional using Monte-Carlo Methods" .
- 2012 Co-organizer Workshop, "*Mathematical Models for Impulsiveness : Alpha-stable processes for signal processing and communications*", 18/12/2012, Lille, France.
- 2011 Co-organizer du workshop, "*Filtering, MCMC and ABC*", 28-29/03/2011, Lille, France.

Evaluation committees & Review panels

Editorial Activities

- 2020-... **Associate Editor**, *Signal Processing (Elsevier)*.
- 2009-... Reviewer for different journal and international conferences.
Journal: IEEE Trans. on Signal Processing, IEEE Signal Processing Letters, Computational Statistics & Data Analysis, 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.
Conferences: IEEE ICASSP Conferences, EUSIPCO Conferences, IEEE SSP Workshops, IEEE ISSNIP, ISSPA 2010, etc.

Review Panels

- 05/2019 Research project submitted to *Agence Nationale de la Recherche (ANR)*, France.
- 09/2018 Research project submitted to *Czech Science Foundation*, Czech Republic.

- 01/2018 Research project submitted to *Netherlands Organisation for Scientific Research (NWO)*, Netherlands.
- 05/2017 Member of expert panel for the evaluation of the *French-South African Institute of Technology (F'SATI)* in Pretoria & Cape Town (2008-2015) requested by the *National Research Foundation*, South Africa.
- 2013-2014 Ph.D Scholarships - Institut Mines-Télécom.
- 12/2011 Post-doctoral Fellowship - Conseil Régional Champagne Ardenne.
- [Academic Position Committees](#)
- 05/2023 Assistant Professor - Université Bretagne Sud (**President of the committee**), MCF 26 0059.
- 05/2023 Assistant Professor - Université Bretagne Sud, MCF 26 0199.
- 05/2023 Assistant Professor - Université Bretagne Occidentale, MCF 26.
- 05/2019 Assistant Professor - Université Bretagne Sud, MCF 26 0092.
- 05/2016 Assistant Professor - Troyes University of Technology, MCF 61 4025.
- 05/2014 Assistant Professor - ENSEEIHT University of Toulouse, MCF 61 4058.
- 05/2013 Assistant Professor - ENSEEIHT University of Toulouse, MCF 63 0310.
- 05/2011 Assistant Professor - Troyes University of Technology, MCF 61 0007.
- [Habilitation à Diriger des Recherches \(HDR\) Committees](#)
- 02/2023 **Yohan Petetin**, “Generative models for time series data”, Institut Polytechnique de Paris.
- 12/2020 **Daniel Clark**, “Point process modelling for filtering, information, and control”, Université Paris-Saclay.
- 12/2020 **Emmanuel Monfrini**, “Markovian modeling and Bayesian Inference”, Université Ecry Val Essonne - Reviewer.
- [Ph.D Committees](#)
- 12/2023 **Tariqul Hassan Mallik** , “Electromagnetic Field Exposure Reconstruction by Artificial Intelligence”, de l’Université de Lille - **Reviewer**.
- 11/2023 **Mathis Chagneux**, “Multi-target tracking and novel sequential variational approaches for high-dimensional temporal data: an application to object counting in videos ”, de l’Institut Polytechnique de Paris .
- 10/2023 **Ayoub Boumchich**, “A Smartphone-Based Crowd-Sourced Database for Environmental Noise Assessment: from data quality assessment to the production of relevant noise maps”, de l’Université Le Mans.
- 11/2022 **Clément Fernandes**, “Chaînes de Markov triplets et segmentation non supervisée d’images”, Institut Polytechnique de Paris - **Reviewer**.
- 09/2022 **Yunshi Huang**, “Bayesian Inference for Image Deblurring at a Large Scale”, Université Gustave Eiffel.
- 09/2022 **Sami Jouaber**, “Utilisation de méthodes d’apprentissage automatique pour des tâches de pistage radar et de classification d’aéronefs”, Université de Paris Sciences & Lettres.
- 06/2022 **Audrey Cuillery**, “Poursuite multi-cibles sur signal brut”, Université Rennes 1.
- 06/2022 **Alice Martin**, “Deep Learning models and algorithms for sequential data problems - Applications to Language Modelling and Uncertainty Quantification”, Institut Polytechnique de Paris - **Reviewer**.
- 09/2021 **Slim Hamdi**, “Deep Learning Anomaly Detection for Drone-based Surveillance”, UTT Troyes.
- 12/2020 **Mircea Moscu**, “Distributed graph topology inference from streaming data”, Université Cote d’Azur.
- 12/2019 **Haoyu Li**, “Recent Hidden Markov Models for Lower Limb Locomotion Activity Detection and Recognition using IMU sensors”, Ecole Centrale de Lyon - **Reviewer**.
- 07/2019 **Léo Legrand**, “Contributions to single and multi-target tracking based on random finite sets”, University of Bordeaux - **Reviewer**.

- 03/2019 **Marina Riabiz**, “*On Latent Variable Models for Bayesian Inference with Stable Distributions and Processes*”, University of Cambridge (UK) - **Reviewer**.
- 12/2018 **Marcos Eduardo Gomes-Borges**, “*Real-Time Sensor Management Strategies for Multi-Object Tracking*”, Centrale Lille.
- 12/2018 **Khac Phuc Hung THAI**, “*Détection et localisation de cibles masquées en milieu urbain*”, Université de Rennes 1.
- 04/2018 **Kersane Zoubert-Ousseni**, “*Algorithmes de géolocalisation à l’intérieur d’un bâtiment en temps différé*”, Université de Rennes 1.
- 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

Memberships

- From 2020 Member of the team *Dynamical Systems, Probability & Statistics* of the laboratory LMBA UMR CNRS 6205.
- Depuis 2020 Member of the French Society of Statistics (SFdS).
- From 2013 Member of the International Society for Bayesian Analysis (ISBA).
- From 2009 Member IEEE Signal Processing Society.
- From 2009 Member of the french research group GDR-ISIS.
- 2018-2020 Member of the team DECIDE of the laboratory Lab-STICC UMR CNRS 6285.
- 2011-2018 Member of the team “Signal, Models and Applications” of CRIStAL, UMR 9189 (previously “Signal and Image” of LAGIS, UMR CNRS 8219).

Seminars and Invited Talks

- 10/2023 Invited talk - Workshop *Statistical modeling, machine Learning, and artificial intelligence insights for natural hazard and risk studies* at LMBP, Clermont-Ferrand (1h).
“Generalised hyperbolic state space models with application to spatio-temporal heat wave prediction”
- 02/2023 Seminar, Institute of Statistical Mathematics, Tokyo Japan (1h).
“Spatio-temporal generalised hyperbolic models with application to heatwave prediction”
- 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-target 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 Seminar, Institute of Statistical Mathematics, Tokyo Japan.
“Monte Carlo methods for Tracking”
- 2/2017 Invited talk at Journée “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, 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"
- 11/2009 Final Workshop of the SAMSI program on Sequential Monte-Carlo methods, Durham, North Carolina, USA.
"Multi-target Tracking using MCMC-Based Particle Algorithm."
- 05/2009 Laboratoire L2S, Gif-sur-Yvette.
"Méthodes particulières pour la poursuite d'objets"
- 01/2009 IRISA - Rennes, France.
"Méthodes particulières pour la poursuite et la détection de cibles"
- 09/2008 Opening Workshop of the SAMSI program on Sequential Monte-Carlo methods, Durham, North Carolina, USA.
"Tracking of Coordinated Groups using Marginalised MCMC-based Particle Algorithm"

Publications

Papiers soumis / preprints

- [P1] P. AILLIOT, A. CUZOL, G. DURRIEU, H. FLOURENT, E. FRÉNOT, J. GUILLOT, J.-P. LUCAS, and F. SEPTIER. "Synthèse des questions mathématiques soulevées par la mise en oeuvre de jumeaux numériques pour le suivi et le pilotage de systèmes dynamiques en entreprises". hal-03167416. 2021.
- [P2] A. DE FREITAS, F. SEPTIER, and L. MIHAYLOVA. "Sequential Markov Chain Monte Carlo for Bayesian Filtering with Massive Data". arXiv:1512.02452. 2018.
- [P3] G. W. PETERS, T. MATSUI, F. SEPTIER, and A. TAMAMORI. "Estimation and Calibration in Gaussian Process State Space Models : MCDC Tool". Feb. 2017.
- [P4] G. W. PETERS, L. CLAVIER, I. NEVAT, and F. SEPTIER. "Generalized Interference Models for Wireless Network Systems : the PNSC(α) Framework". Jan. 2017.

Articles dans des revues internationales à comité de lecture

- [J1] V. WATSON, F. SEPTIER, P. ARMAND, and C. DUCHENNE. "Efficient Methods to Detect Atmospheric Concentration with Low Signal to Noise Ratio on a Sensor Network". In: *Atmospheric Environment* 316, Jan. 2024. DOI: 10.1016/j.atmosenv.2023.120190.
- [J2] D. MURAKAMI, G. P. PETERS, F. SEPTIER, and T. MATSUI. "Spatio-temporal generalised hyperbolic models with application to heatwave prediction". In: *Spatial Statistics*, Sept. 2023. DOI: 10.1016/j.spasta.2023.100778.

- [J3] R. TAYEWO, F. SEPTIER, I. NEVAT, and G. W. PETERS. “Graph Regression Model for Spatial and Temporal Environmental Data—Case of Carbon Dioxide Emissions in the United States”. In: *Entropy* 25, Aug. 2023. DOI: 10.3390/e25091272.
- [J4] M. RUI, C. GARNIER, F. SEPTIER, and J. KLEIN. “State space partitioning based on constrained spectral clustering for block particle filtering”. In: *Signal Processing* 201, Dec. 2022. DOI: 10.1016/j.sigpro.2022.108727.
- [J5] C. BONET, N. COURTY, F. SEPTIER, and L. DRUMETZ. “Efficient Gradient Flows in Sliced-Wasserstein Space”. In: *Transactions on Machine Learning Research*, Nov. 2022.
- [J6] V. WATSON, F. SEPTIER, P. ARMAND, and C. DUCHENNE. “Sequential detection of a temporary change in multivariate time series”. In: *Digital Signal Processing* 127, July 2022. DOI: 10.1016/j.dsp.2022.103545.
- [J7] F. SEPTIER, P. ARMAND, and C. DUCHENNE. “Sequential Monte Carlo sampler applied to source term estimation in complex atmospheric environments”. In: *Atmospheric Environment* 269, Jan. 2022. DOI: 10.1016/j.atmosenv.2021.118822.
- [J8] C. BONET, T. VAYER, N. COURTY, F. SEPTIER, and L. DRUMETZ. “Subspace Detours Meet Gromov-Wasserstein”. In: *Algorithms* 14 (12), Dec. 2021. ISSN: 1999-4893. DOI: 10.3390/a14120366.
- [J9] W. GU, X. YAN, G. W. PETERS, L. CLAVIER, F. SEPTIER, and I. NEVAT. “Impulsive Noise Modeling and Robust Receiver Design”. In: *EURASIP Journal on Wireless Communications and Networking*, Jan. 2021. DOI: 10.1186/s13638-020-01868-1.
- [J10] F. SEPTIER, P. ARMAND, and C. DUCHENNE. “A Bayesian Inference Procedure Based on Inverse Dispersion Modelling for Source Term Estimation in Built-up Environments”. In: *Atmospheric Environment* 242, Dec. 2020. DOI: 10.1016/j.atmosenv.2020.117733.
- [J11] 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: *IEEE Transactions on Signal Processing*, Apr. 2018. DOI: 10.1109/TSP.2018.2802452.
- [J12] Q. T. NGUYEN, Y. DELIGNON, F. SEPTIER, and A. T. PHAN-HO. “Probabilistic modelling of printed dots at the microscopic scale”. In: *Signal Processing: Image Communication* 62, Mar. 2018, pp. 129–138. DOI: 10.1016/j.image.2018.01.003.
- [J13] 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.
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