

Paul Doukhan

Professor of Mathematics and Statistics, Exceptional class, Senior IUF honorary member
University Cergy Pontoise UFR Economy and Sciences, Saint-Martin,

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Born on February 7, 1955, Constantine, Algeria, 2 children, french nationality

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Web: <http://doukhan.u-cergy.fr>,

<http://www.iufrance.fr/les-membres-de-liuf/membre/1139-paul-doukhan.html>

Abroad teaching experience, advanced courses: Belgium, Brazil, Chile, China, Colombia, Cyprus, Denmark, Ecuador, Germany, Ivory Cost, Japan, Poland, USA, Hong Kong, Switzerland, Ukraine, Uruguay, Venezuela

A. Vitae

1975-1979 Fellow at ENS Saint-Cloud

1976-1977 D.E.A. Statistics University Paris-Sud Orsay

1977-1978 French competition for highschool professors in Mathematics, ranking 11th

1979-1980 Fellowship D.G.R.S.T.

5/1980 PhD **May 30** : Processus autorégressifs non linéaires, advisor: J. Bretagnolle, Paris-Sud University, Orsay

1980-1981 Internship for professors in highschools [Academy of Versailles]

1981-1982 Assistant Professor Rouen University

1982-1983 Researcher CNRS

1983-1993 Full position of researcher C.N.R.S.

6/1986 Habilitation Thesis **June 11**: Etude de Processus mélangeants, advisor: D. Dacunha-Castelle, University Paris-Sud, Orsay. Jury : J.M. Bony, J. Bretagnolle, P. Deheuvels, D. Castelle, J.R. Leon, J.P. Raoult. Second Thesis : Systèmes hyperboliques de conservation de lois multidimensionnelles, with J.M. Bony.

Dacunha-
1987 Promotion C.R.1

1988-1989 Professor at Wuhan University, China

1993 Professor at Cergy-Pontoise University

1999 Promotion Pr. 1 (first class professor CNU)

2002 Professor at ENSAE

9/2008 Professor at Cergy-Pontoise University (Prime PEDR)

9/2009 Promotion Pr. Ex (Exceptional class professor CNU).

9/2011 Nomination as a Senior member of IUF (top 3% of French Academics)

10/2011 Elected member at CNU section 26 (National council of university for applied mathematics)

9/2012 Promotion Pr. EX 2 (highest promotion in France)

6/2013 Member of ANR LoLiTa <http://lolita.isfa.fr/>, Dynamic models for human Longevity with Lifestyle Adjustments

6/2014 Organization of a conference devoted to my 60th birthday (June 3-5).

6/2018 Organization of the nonstationary conference (June 4-6).

<https://www.u-cergy.fr/fr/laboratoires/agm/actualites-du-laboratoire/conference-on-non-stationarity.html>

2018-2019 Organization of the nonstationary days (December 12/February 13/ March 7/June 3).

<https://www.u-cergy.fr/fr/laboratoires/agm/actualites-du-laboratoire/nonstationary-day.html>

2020-2024 Grant of AAP-CYU, EcoDep <https://www.researchgate.net/project/Eco-Dep> funded 400k€, the project meets 22 researchers spread around the world.

B. Teaching, research and administration of research

1986-1992 Responsible of an agreement Caracas-Orsay

1998- 2002 Member of the Scientific committee at Cergy

1999-2002 Member of the bureau of the Scientific committee at Cergy.

2001- Vice president of the recruiting committee Math-Info Paris 2-ASSAS commission

2006-2012 Associate editor, **Stochastic Processes and their Applications**

| | |
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| 2009 | Selection committee, university Cergy-Pontoise |
| 2009, 2010 | Selection committee, university Rennes. |
| 2009 | Agreement of cooperation with Polytechnic Institute Kiev |
| 2010 | Selection committee, university Toulouse 3 |
| 2010- | Associate editor, Statistics |
| 2010- | Associate editor, Stapro |
| 2010- | Associate editor, Journal of Time Series Analysis |
| 2010 | Direction of the master of applied Mathematics, Cergy |
| 2010 | Participation to the Labex project MME-DII Cergy, funded to 4.5 M€ |
| 2010 | Associate editor, Theory of Stochastic processes |
| 2011 | Associate editor, Research Bulletin of NTII (Kiev Polytechnic Institute) |
| 2013 | Selection committee, university Cergy-Pontoise |
| 2015 | Member of the network FIGURE, for the formation of masters in Engineering |
| 2016 | Responsible of the mathematics commission in the Figure network. |
| 2020-2024 | PI of the project EcoDep https://www.researchgate.net/project/Eco-Dep |

PhD Students

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| 1990-1993 | Philippe SOULIER , Some problems of functional estimation under different dependence frameworks. <i>Exceptional Class Professor Univ. Paris 10.</i> |
| 1991-1994 | Patrick ANGO NZE , Non-parametric estimation under mixing conditions. <i>Mcf. Lille.</i> |
| 1993-1996 | Ricardo RIOS , Qualitative tests of goodness-of-fit, Estimation of functions and of their differentials under weak dependence. <i>Professor University Central of Venezuela, Caracas.</i> |
| 1993-1996 | Caren LUDENA , Minimax estimation of functionals of a spectral density (<i>codirection J. R. Léon, Caracas</i>). <i>Professor University Central of Venezuela, Caracas.</i> |
| 1995-1997 | Samir BENHARIZ , Long range dependence and applications. <i>MCf University le Mans.</i> |
| 1995-1998 | Sana LOUHICHI , Weak and positive dependence ; properties and statistical applications. <i>First class professor University Grenoble.</i> |
| 1998-1999 | Ali KHEZOUR , Long range dependence and limit theory. <i>Computer engineer.</i> |
| 1998-2002 | Clémentine PRIEUR , Weak dependence and dynamical systems; statistical applications. <i>First class professor University Grenoble.</i> |
| 2002-2006 | Nicolas RAGACHE , Asymptotic properties of polls under dependence. <i>Lawyer Vietnam.</i> |
| 2004-2007 | Olivier WINTENBERGER , Weak dependence in statistics (<i>cotutored with J.M Bardet</i>) <i>Pr. University Paris 6.</i> |
| 2004-2006 | Gilles TEYSSIERE , Long range dependence and applications in statistics and in finance. <i>Habilitation.</i> |
| 2004-2006 | Stéphanie DUPOIRON . Subsampling under weak dependence conditions. <i>Hambourg.</i> |
| 2006-2008 | Lionel TRUQUET , Weakly dependent processes and random fields. <i>MCf-HDR ENSAI.</i> |
| 2006-2010 | Nathanael MAYO , Monitoring execution riskon financial markets : estimation of correlation matrices, <i>Cifre contract Exane-BNP-Paribas-University Paris 1 CALYON, data scientist.</i> |
| 2009-2012 | Cai SIXIANG . Bootstrapping extreme statistics for financial applications. <i>Codirection with J. L. Prigent and Olivier Wintenberger. Bank accountant.</i> |
| 2010-2014 | Xiaoyin LI . Learning and dependence. Aggregation of estimations under dependence, application to the French economic index. Application of learning to DNA sequencing. <i>Thesis Cergy UCP. Assistant Professor University of Minnesota.</i> |
| 2012-2017 | Jose GOMEZ . Clustering in extreme values theory for random processes. <i>Thesis Cergy UCP. PostDoc CAEN.</i> |

- 2014-2017 **Ieva GRUBLYTE**. Modeling financial time series. *Cotutored thesis with D. Surgailis Vilnius. Data scientist Paris.*
- 2018 **Remy GARNIER**. *Modelling stocks in online retail. Cotutored thesis with J. Rynkiewicz, Cdiscount.*
- 2019 **Raphaël Langhendries**. *Reliability of planes engines. Cotutored thesis with J. Rynkiewicz, Safran.*
- 2020 **Ousmane Boly**. *Effects of Hawkes random sampling over the estimation of Lévy driven processes. Cotutored thesis with J.-L. Prigent.*

Applied problems

- 1981 Validation by simulations of kernel regression estimates.
- 1986-1988 Work with N. Pican on reliability, IFREMER, Brest.
- 1987-1989 Analysis-Prediction for import-export data, GEC ALSTHOM, Paris, with F. Guénard.
- 1988 Earthquakes in Venezuela with Leon and Nicole.
- 1992-1996 Co-responsible with G. Oppenheim: contract Orsay-EDF, prediction of consumption.
- 2006 Contract CIFRE EXANE BNP-Paribas with SAMOS Paris 1.
- 2007 Prediction of consumption and change-points in electric consumption, EDF.
- 2010 Prevision, workshop organized with Matthieu Cornec, INSEE.
- 2016 Modeling mortality table in actuarial sciences, ISFA.
- 2018 Prediction of Chilean fisheries.
- 2018 Modeling astronomical data.
- 2018 Non stationary warehouses models for online retail, Cdiscount.
- 2020 PI for a project AMBITION at Paris Seine Initiative (400 000€ for 4 years). The project Eco-Dep includes a staff of 25 researchers in ecology, mathematics and statistics from France, Chile, USA, UK, Japan, Spain and Germany.

Organization of conferences (after 2010)

- 1/2010 Organization of a conference on times series, Cergy.
- 6/2010 Co-organization with J. M. Bardet, G. Lang, F. Merlevède of a conference dedicated to the 60th birthday of Magda Peligrad, Paris.
- 4/2011 Co-organization of a Workshop at CIRM, Marseille on limit theorems for dependent data, with Richard Bradley, Herold Dehling, Michael Neumann.
- 6/2011 Co-organization with K. Fokianos of a conference on times series, Cyprus.
- 11/2011 Conference on nonstationarity, Cergy Pontoise (organized with EDF)
- 2012 *Organization of a thematic year Cycle at Cergy Pontoise **Nonstationarity and Risks** with Jean Luc Prigent and Flora Koukiou, budget 100 000 euros*
- 2013 *Organization of the chair of Excellence “Adam Jakubowski”*
http://labex-mme-dii.u-cergy.fr/?page_id=550
- 6/2014 *Organization of a month of statistics in CIRM Luminy.*
- 5/2015 *Conference for my 60th birthday, IHP (May 11-13).*
- 8/2015 *Conference in statistics, organization of the random fields session Loccum.*
- 6/2018 *Conference on nonstationarity (June 4-6) budget 20 000 €.*
<https://www.u-cergy.fr/fr/laboratoires/agm/actualites-du-laboratoire/conference-on-non-stationarity.html>
- 5-7/2018 *Chair of K. Fokianos at Cergy Pontoise (Isite).*
- 2018 *Organisation Non-stationary days with O Klopp, N Marie, J-L Prigent: December 12, february 13, March 7, June 4. <https://www.u-cergy.fr/fr/laboratoires/agm/actualites-du-laboratoire.html>*
- 9/2020 *CIRM Workshop, new trends of time series analysis with J-M Bardet, I Eckley, K Fokianos, L Giraitis, MH Neumann, A Philippe, S Rao, O Winterberger. <https://conferences.cirm-math.fr/2233.html>*
- 9/2020 *Organisation of the Online opening conference of Ecodep*
<http://doukhan.u-cergy.fr/onlineconference.html>

Besides those activities I was refereing several national and international projects, e.g. in Germany, USA, Poland, Brazil and Chile.

Invitations (after 2010)

8/2010 28th-European Meeting of Statistics, Piraeus, Greece
9/2010 Prague Stochastics, Prague.
9/2010 Modern Stochastics, theory and applications II, Kiev, Ukraine
6/2011 Second Conference on integer valued times series, Cyprus
9/2011 Number Theory and probability, theory and applications II, Kiev, Ukraine
11/2011 Conference on non stationarity, Cergy Pontoise
11/2011 Conference for the 60th Birthday of Jose Leon (main lecture)
12/2011 Lectures on weak dependence, Louvain la Neuve.
02/2012 CLAPEM Vina del MAR (Chile)
06/2012 RATS (keynote speaker) Protaras, Cyprus.
12/2012 Lectures on dependence, Porto Alegre (Brazil)
06/2013 Lectures on time series, Bogota (Colombia)
08/2013 Lectures on weak dependence, Valparaiso (Chile)
02/2014 Lectures on time series, Torun (Poland)
05/2014 Lectures on weak dependence Hong Kong University
12/2014 Lecture in PUCV, Santiago, Chile
02/2015 Seminars and joint work in Wroclaw, Torun and Varsaw
02/2015 Conference in honor of Herold Dehling 60th birthday. Bochum
03/2015 Seminar and joint work, Columbia, NYU
05/2015 Conference for my 60th Birthday, IHP, Paris
06/2015 Conference in honor of Thomas Mikosch 60th birthday, Copenhagen
07/2015 Lectures at IMPA (Rio)
08/2015 Conference in Econometrics (Campos de Jordao, Brazil)
07/2015 Research work: integer valued LRD models (Porto Alegre, Brazil)
05/2016- Workshop on stochastic dependence, weakly organized at IHP
http://www.ihp.fr/fr/activites/seminaires_groupes_de_travail#mardi
06/2016 KPI Kiev.
07/2016 University Heidelberg
7-8/2016 Universidad de la Republica, Montevideo
08/2016 UFRGS, Porto Alegre. Brazil.
10/2016 Conference to the memory of V. Buldygin, Kiev
02/2017 KPI Kiev
04/2017 CIMFAV, Valparaiso
12/2017 Charles University, Prague
01/2018 Tianjin University
01/2018 Aarhus University
02/2018 Ulm University
03-04/2018 CIMFAV, Valparaiso
07-09/2018 CIMFAV, Valparaiso
02/2019 Lectures on time series, Uzhgorod (Ukraine)
03-05/2019 CIMFAV, Valparaiso
06/2019 Riken AIP, Tokyo
07/2019 Columbia, NY
09/2019 UQAM Montreal
01/2020 PUCV Valparaiso
01/2020 HEC Lausanne
2020 SUTD Singapore
2020 Yamoussoukro, Ivory Coast
2020 Riken AIP, Osaka
2020 Columbia department of Statistics. New York
2020 Seoul, Corea

C. Academics

Teaching

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| 1980-1981 | Internship in highschoools, Versailles |
| 1980-1986 | Preparation to the competition for highschool professors: Analysis, ENS St-Cloud |
| 1988-1989 | Direction of the program of applied mathematics: Wuhan, China |
| 1990-1992 | PhD course M.A.S.E. University Paris 9: Stochastic Calculus |
| 1992-1993 | PhD course, Bordeaux 1 University Functional Estimation |
| 1993 | Preparation to CAPES competition, University Paris 13: Probability |
| 1993-2002 | Direction of undergraduate courses (mathematics applied to economy) Cergy Pontoise University; courses of calculus and probability |
| 1993-1996 | PhD course, Orsay, Dependence and mixing |
| 1994-1997 | Graduate course, probability at Cergy Pontoise University |
| 2002 | Graduate course: Introduction to inference and tests, ENSAE, 2 nd year |
| 2002 | Graduate course: Using empirical processes in statistics, ENSAE, 3 rd year |
| 2008 | Direction of undergraduate courses (mathematics applied to economy) Cergy; Lectures in Licence Cergy |
| 2009 | Master LSTA, Paris 6 M2, lectures on dependence on non linear times series |
| 2009- | Master GRFA Cergy (lectures on mathematical background of finance M2) |
| 2010- | Master Mathematics Cergy, course of Statistics M1 |
| 2010 | Master of Mathematics Cergy, courses for the preparation Aggregation |
| 2010- | Direction of MAM (Master of Applied Mathematics Cergy) |
| 2010-2011 | Lectures on times series, M1, MAM Cergy |
| 2010- | Lectures on non linear times series, M2, MAM Cergy |
| 2010- | Lectures on stochastic processes, M2, MAM Cergy |
| 2011- | Mathematics for finance, M2, GRFI Cergy |

Teaching publications (in French)

Corrigés de concours d'entrée aux grandes écoles scientifiques (Séries M' et P'), M. Dourakine, collectif. D.I.A., Editions Belin 1978

Problèmes corrigés Baccalauréat (Série D) M. Dourakine, collectif. D.I.A., Editions Belin, 1978

Analyse réelle. Préparation à l'agrégation: ENS Saint-Cloud (60 pages), 1980

Théorie de l'Approximation. Préparation à l'agrégation: ENS Saint-Cloud (20 pages), 1982

Calcul Stochastique élémentaire, Master. Université Paris 9, Dauphine (100 pages), 1985

Estimation Fonctionnelle. Cours de troisième cycle, Université Bordeaux 2 (120 pages), 1987

Cours de mathématiques. Premier cycle MASS. Université de Cergy Pontoise. (160 pages), 1994

Course of mathematical analysis with Jean Claude Sifre (2002, see reference [3])

Course of Statistics at ENSAE (2002) 95 pages

A course on empirical processes (2003) 55 pages

A course on time series (2003) 62 pages

Estimation 2, ENSAE (2006) 87 pages

Real Analysis, 1st Term of the Licence Eco-Math, 85 pages

Statistics, Cergy, M1 (2009) 87 pages

Non linear time series, Paris 6, M2 (2009) 120 pages

Mathematical tools for finance, Cergy, M2 (2009) 125 pages

D. Publications

Books

- [B1] Mixing: properties and examples, Lecture Notes in Statistics 85, Springer-Verlag (1994).
- [B2] Theory and Applications of Long-range Dependence, Paul Doukhan, Georges Oppenheim and Murad S. Taqqu editors (718 pages) Birkhäuser, Boston (2003).
- [B3] Course of Mathematical Analysis with Jean Claude Sifre in French, Editions Dunod

- « Analyse réelle et intégration », (380 pages) (2001),
 « Calcul différentiel, intégration et probabilités », (486 pages) (2002).
- [B4] Dependence in Probability and Statistics, Patrice Bertail, Paul Doukhan, and Philippe Soulier (Editors) LNS 187, Springer, New York (500 pages) (2006).
- [B5] Weak dependence: models, theory and applications (350 pages), Lecture Notes 190 in Statistics, Springer-Verlag, with G. Lang, C. Prieur, S. Louhichi, J. Dedecker, J. R. Leon (2007).
- [B6] Dependence in Statistics and Econometry, Gabriel Lang, Paul Doukhan, Donatas Surgailis and Gilles Teyssière (Editors). LNS 200, Springer New York (2010).
- [B7] Modeling nonlinear time series. 276 pages. Lecture notes at IMPA (2015).
- [B8] Stochastic Models for Time Series. 330 pages. Springer, Mathematics and Applications 80 (2018).

Papers

- [1] with M. Ghindès. Etude du processus $X_{n+1} = f(X_n) + \xi_{n+1}$. CRAS Série A, **290**-19, 921-923 (1980).
- [2] with M. Ghindès. Estimations dans le processus $X_{n+1} = f(X_n) + \xi_{n+1}$. CRAS Série A, **291**-1, 61-64 (1980).
- [3] with M. Ghindès. Estimation of the transition probability of a Doeblin-recurrent Markov chain. Study of the case of the general autoregressive process of order 1. Stochastic Processes and their Applications **15**-3, 271-293 (1983).
- [4] Simulations in the general first order autoregressive process. Specifying statistical models, Louvain 1982, Lecture Notes in Statistics **16**, Springer, 50-68, (1983).
- [5] with F. Portal. Moments of mixing random variables. CRAS Série I **297**-2, 129-132 (1983).
- [6] with G. Collomb. Non-parametric estimation of auto-regression function of stationary ϕ -mixing processes: quadratic risks of a kernel estimate. CRAS Série I, **296**-20, 859-863 (1983).
- [7] with F. Portal, J.R. Leon. Vitesse de convergence dans le théorème central limite pour des variables aléatoires mélangeantes à valeurs dans un espace de Hilbert. CRAS Série I **291**-38, 305-308 (1984).
- [8] with F. Portal, J. R. Leon. Calcul de la vitesse de convergence dans le théorème central limite vis à vis des distances de Dudley, Lévy et Prokhorov. Probability and Mathematical Statistics **6**.1, 19-27 (1985).
- [9] Hermite functions and statistics of mixing processes. Bruxelles 1985. Review of C.E.R.O., Bruxelles **28**:1-3, 99-115 (1986).
- [10] with F. Portal, J. R. Leon. A measure of the quadratic deviation of nonparametric estimators. Annales Institut H. Poincaré Series B. 22-1, 37-66 (1986).
- [11] with J. R. Leon. Invariance principles for the empirical measure of a mixing sequence and for the local time of a Markov process. Geometrical and statistical aspects of probability in Banach spaces, Strasbourg 1985; LNM. **1993**, 4-21, Springer (1986).
- [12] with F. Portal. Principe d'invariance faible pour la fonction de répartition empirique dans un cadre multidimensionnel et mélangeant. Probability and Mathematical Statistics **8**.2, 117-132 (1987).
- [13] with A. Bulinskii. Inégalités de mélange fort utilisant des normes d'Orlicz. CRAS Série I **305**-19, 827-830 (1987).
- [14] with F. Portal, J. R. Leon. Principe d'invariance faible pour la mesure empirique d'une suite de variables aléatoires dépendantes. Probability Theory and Related Fields **76**-1, 51-70 (1987).
- [15] Non parametric estimation of a regression function in a mixing framework. Caracas, Acta Cientifica Venezolana **38**, 5-6, 585-590 (1987).
- [16] with J. R. Leon, J. L. Nicolle. Metodologia para evaluar la sismicidad cuando la base de datos es incompleta. Revista Tecnica INTEVEP **8**.1, 13-22 (1988).
- [17] Formes de Toëplitz associées à une analyse multi-échelle. CRAS Série I **306**-5, 663-666 (1988).
- [18] with A. Bulinskii. Vitesse dans le théorème de limite centrale pour des champs mélangeants satisfaisant des hypothèses de moments faibles. CRAS Série I **311**-12, 801-805 (1990).
- [19] with J. R. Leon. Cumulants for mixing sequences and applications to empirical spectral density.

- Probability and Mathematical Statistics **10**, 1, 11-26 (1989).
- [20] with J. R. Leon. Quadratic deviation of projection density estimates. CRAS Série I Math **310**-6, 310, 425-430 (1990).
- [21] Consistency of δ -estimates for a regression or a density in a dependent framework in Séminaire de Statistiques d'Orsay 1989-1990: Estimation Fonctionnelle. Preprint Orsay **91-55**, 121-141 (1991).
- [22] with E. Gassiat. Quadratic deviation of penalized mean square regression estimates. Journal of Multivariate Analysis **41**-1, 89-101 (1992).
- [23] with J. R. Leon. Spectral estimation for strongly dependent stationary Gaussian processes. CRAS Série I **313**-8, 523-526 (1991).
- [24] with X. Guyon. Mélange pour des processus linéaires spatiaux. CRAS Série I **313**-7, 465-470 (1991).
- [25] with J. R. Leon. Quadratic deviation of projection density estimates. Revista brasileira de probabilidade e estatística : REBRAPE **7**-1, 37-63 (1993).
- [26] with P. Ango Nze. Functional estimation for mixing time series. CRAS Série I **317**-4, 405-408 (1993).
- [27] with F. Gamboa. Vitesses de superrésolution en distance de Prokhorov. CRAS Série I **318**-12, 1143-1148 (1994).
- [28] with P. Massart, E. Rio. The functional central limit theorem for weakly dependent processes. Annales Institut Henri Poincaré Series B **30**-1, 63-82 (1994).
- [29] with A. Tsybakov. Estimation in non parametric A.R.X. models in Russian: Problemy Peredachi Informatsii, 24-34, 1993- Problems of Transmission of Information **29**-4, 318-327 (1994).
- [30] with P. Massart, E. Rio. Invariance principle for the empirical measure of a weakly dependent process. Annales Institut Henri Poincaré Series B **31**-2, 393-427 (1995).
- [31] with P. Ango Nze. Non parametric Minimax estimation in a weakly dependent framework I: Quadratic properties. Mathematical Methods of Statistics **5**-4, 404-423 (1996).
- [32] with J. R. Leon and P. Soulier. Empirical periodogram of a long range dependent stationary Gaussian random fields. Revista brasileira de probabilidade e estatística : REBRAPE **10**-2, 205-223 (1996).
- [33] with F. Gamboa. Prohorov rates in super-resolution. Canad. J. of Math. **48**-2, 316-329, (1996).
- [34] with J. Leon. Asymptotics for the local time of a Gaussian random field. Acta Mathematica Hungarica **70**-4, 329-351 (1996).
- [35] with P. Ango Nze. Functional estimation for time series: uniform convergence properties. Journal of Statistical Planning and Inference **68**-1, 5-29 (1998).
- [36] An overview on weak dependence conditions of stationary sequences. Acta Científica Venezolana **49**-2, 78-93 (1998).
- [37] with D. Surgailis. Functional Central Limit Theorem for the empirical process of a short memory linear process. CRAS Série I **326**-1, 87-92 (1998).
- [38] with S. Louhichi. A new weak dependence condition and applications to moment inequalities. Stochastic Processes and their Applications **84**-2, 313-342 (1999).
- [39] with J. R. Leon, S. Ben Hariz. Central Limit Theorem for the local time of a Gaussian random process. Dalang, Robert C. *et al.* (ed.), Seminar on Stochastic analysis, random fields and applications. Centro Stefano Franscini, Ascona, Italy, September 1996. Basel: Birkhäuser. Progresses in Probability **45**, 25-37 (1999).
- [40] with C. Coulon-Prieur. A CLT for triangular arrays of weakly dependent sequences. Statistics and Probability Letters **47**-1, 61-68 (2000).
- [41] with S. Louhichi. Functional estimation for weakly dependent stationary time series. Scandinavian Journal of Statistics **28**-2, 325-342 (2001).
- [42] with P. Ango Nze, P. Bühlmann. Weak dependence beyond mixing and asymptotics for non parametric regression. Annals of Statistics **30**-2, 397-430 (2002).
- [43] with P. Ango Nze. Weak dependence: models and applications, Dehling W. et al. (ed.), Empirical Processes Techniques for Dependent Data, 117-137 *Birkhäuser, Boston* (2002).

- [44] with G. Lang. Rates of convergence in the weak invariance principle for the empirical repartition process of weakly dependent sequences. *Statistical Inference for Stochastic Processes* **5**, 199-228 (2002).
- [45] with G. Lang, D. Surgailis. Functional CLTs for short or long memory linear sequences. En l'honneur de J. Bretagnolle, D. Dacunha-Castelle, I. Ibragimov. *Annales Institut Henri Poincaré, series B* **38-6**, 879-896 (2002).
- [46] Models Inequalities and Limit Theorems for Stationary Sequences. *Theory and Applications of Long-range Dependence* 41-100, *Birkhäuser Boston, Boston* (2003).
- [47] with A. Khezour, G. Lang. Non-parametric estimation for LRD sequences. *Theory and Applications of Long-range Dependence* 303-311, *Birkhäuser Boston, Boston* (2003).
- [48] with J. Dedecker. A new covariance inequality and applications. *Stochastic Processes and their Applications* **106-1**, 63- 80 (2003).
- [49] with O. Brandière. Algorithmes stochastiques à bruit dépendant. *CRAS Série 1*, **337-7**, 473-476 (2003).
- [50] with P. Ango Nze, Weak dependence, models and applications to econometrics. *Econometric Theory* **20-6**, 995-1045 (2004).
- [51] with J. Leon. Asymptotics for L^p -deviation of a variance estimator under diffusion. *ESAIM P&S* **8**, 132-149 (2004).
- [52] with O. Brandière. Dependent noise for stochastic algorithms. *Probability and Mathematical Statistics* **24-2**, 381-399 (2004).
- [53] with G. Lang, D. Surgailis, M. C. Viano. Functional limit theorem for the empirical process shifts with long memory. *Journal of Theoretical Probability* **18-1**, 161-186 (2005)
- [54] with B. Ycart, Y. Coupier. 0-1 laws for dependent images, *Alea Latin American Journal of Probability and Statistics* **2**, 157-175 (2006).
- [55] with A. Latour and D. Oraichi. Simple integer-valued bilinear time series model. *Advances in Applied Probability* **3-28**, 559-578 (2006).
- [55] with G. Teyssière, P. Winant. Vector valued ARCH infinity processes. In *Lecture Notes in Statistics* 187, *Dependence in Probability and Statistics*, Springer (2006).
- [56] with H. Madré, M. Rosenbaum. ARCH type bilinear weakly dependent models, *Statistics* **41-1**, 31-45 (2007).
- [57] with M. Neumann. A Bernstein type inequality for times series, *Stochastic Processes and their Applications* **117-7**, 878-903 (2007).
- [58] with O. Wintenberger. A central limit theorem under non causal weak dependence and sharp moment assumptions, *Probability and Mathematical Statistics* **27**, 45-73. (2007).
- [59] with J. M. Bardet, G. Lang, N. Ragache. A Lindeberg central limit theorem for dependent processes and its statistical applications, *ESAIM P&S* **12**, 154-172 (2008).
- [60] with G. Lang, D. Surgailis. Limit theorems for sums of non linear function of ARFIMA processes with random Hurst exponents and Gaussian innovations. *Lithuanian Mathematic Journal* **47-1**, 1-25 (2007).
- [61] with J. M. Bardet and J. R. Leon. A functional limit theorem for weakly dependent processes and its applications. *Statistical Inference for Stochastic Processes* **11-3**, 265--280.(2008).
- [62] with J. M. Bardet, J. R. Leon. A uniform central limit theorem for the periodogram and its applications to Whittle parametric estimation for weakly dependent time series. *Journal of Time Series Analysis* **29-5**, 906-945 (2008).
- [63] with G. Lang, S. Louhichi, B. Ycart. A functional central limit theorem for interacting particle systems on transitive graphs. *Markov Processes and Related Fields* **14-1**, 79-114 (2008).
- [64] with L. Truquet. A fixed point approach to model random fields. *Alea Latin American Journal of Probability and Statistics* **2**, 111-132 (2007).
- [65] with O. Wintenberger. Weakly dependent chains with infinite memory, *Stochastic Processes and their Applications* **118**, 1997-2013 (2008).
- [66] with J. D. Fermanian, G. Lang. Copula of a stationary vector valued weakly dependent process,

- Statistical Inference for Stochastic Processes. **12-1**, 65-87. (2009).
- [67] with M. Neumann. The notion of weak dependence and its applications to bootstrapping time series, *Probability Surveys* **5**, 146-168 (2008).
- [68] with N. Mayo, L. Truquet. Weak dependence, models and some applications. *Metrika* 69:2-3, 199-225 (2009).
- [69] with G. Lang. Evaluation for moments of a ratio with application to regression estimation, *Bernoulli* **15-4**, 1259-1286 (2009).
- [70] with J. Jakubowicz, J. Leon. Subsampling an asymptotic variance. Special volume dedicated to the memory of Walter Philipp. *Kendricks Press* (2009).
- [71] with G. Lang, O., Klesov. Rates in strong laws of large numbers in nonparametric statistics. *Acta Scientiarum Mathematicarum*, Szeged (2010).
- [72] with P. Alquier. Sparsity considerations for dependent variables. *Electronic Journal of Statistics* **5**, 750-774 (2011).
- [73] with S. Prohl, C. Y. Robert. Extremes of weakly dependent times series, discussion paper TEST **20-3**, 447-502 (2011).
- [74] with J. Dedecker, F. Merlevède. Rates of convergence in the strong invariance principle under projective criteria. *Electronic Journal of Probability* **17-16**, 1-31 (2012).
- [75] with K. Fokianos, D. Tjøstheim. On weak dependence conditions for Poisson autoregressions. *Statistics and Probability Letters* **82-5**, 942–948 (2012).
- [76] with K. Fokianos, X. Li. On weak dependence conditions: the case of discrete valued processes. *Statistics and Probability Letters* **82-11**, 1941–1948 (2012).
- [77] Comments on: Some recent theory for autoregressive count time series. TEST **21-3**, 447–450 (2012).
- [78] with O. Klesov, A. Pakes and J. Steinebach. Limit theorems for record counts and times in the F^α -scheme. *Extremes* **16**, 147–171 (2012).
- [79] with R. Douc, E. Moulines. Ergodicity of observation-driven time series models and consistency of the maximum likelihood estimator. *Stochastic Processes and their Applications* **123-7**, 2620–2647 (2013).
- [80] with G. Lang, Anne Leucht, M. Neumann. Dependent wild bootstrap for the empirical process. *Journal of Time Series Analysis* **36-3**, 290–314 (2015).
- [81] with O. Klesov, J. Steinebach. Strong Laws of Large Numbers in an F^α -Scheme. Special issue. *Statistical Inference for Stochastic Processes* 287-303 (2015).
- [82] with D. Pommeret, L. Reboul. Data driven smooth test of comparison for dependent sequences, *Journal of Multivariate Analysis* **139**, 147–165 (2015).
- [83] with W. Kengne. Change point analysis of Poisson autoregressions. *Electronic Journal of Statistics* 9(1), 1267-1314 (2015).
- [84] with A. Jakubowski, G. Lang. Phantom distribution functions for some stationary sequences. *Extremes* 16, 147–171 (2015).
- [85] with I. Grublyte, D. Surgailis. A nonlinear model for long memory conditional heteroscedasticity. *Lithuanian Journal of Mathematics* 56 (2), 164-188 (2015).
- [86] with G. Lang. Weak dependence of point processes and application to second order statistics. *Statistics* 50 (6), 1221-1235 (2016).
- [87] with N. Bahamonde. Spectral estimation in the presence of missing data. *Theory of Probability and Mathematical Statistics* 95, 55-74 (2016).
- [88] with N. Mtibaa. Weak dependence: an approach through the asymmetric ARCH models. In Chaari, Leskow, Napolitano, Sanchez. *Cyclo-stationarity II, Lecture Notes in engineering*. Springer (2016).
- [89] with J.-P. Feugeas, X. Li. Statistical inference for DNA sequences of promoters, a non stationary qualitative model. *Statistics*, 51-1, 154-166 (2017).
- [90] with D. Pommeret, J. Rynkiewicz, Y. Sahli. AR-ARCH random fields for modelling life table. *Insurance Mathematics and Economics* 77, 97-110 (2017).
- [91] with J. M. Bardet. Estimation of AR(1)-non stationary models. *Electronic Journal of Statistics* 12-2, 2323-2354 (2018).

- [92] with A. Jakubowski, S. Lopes, D. Surgailis. Discrete time trawl processes. *Stochastic Processes and Applications* 129- 4, 1326-1348 (2019).
- [93] with J. Gomez. On Extreme Values in Stationary Weakly Dependent Random Fields. In Chaari, Leskow, Napolitano, Sanchez. *Cyclostationarity IV, Lecture Notes in Engineering*. Springer 92-110 (2019).
- [94] with M. Neumann. Absolute regularity of semi-contractive GARCH(p,q)-models; threshold models and subgeometric rates. *Journal of Applied Probability* 56-1, 91-115 (2019).
- [95] with J. Dedecker, X. Fan. Deviation inequalities for separately Lipschitz functionals of composition of random functions. *Journal of Mathematical Analysis and Applications* 479, 1549–1568 (2019).
- [96] with P. Alquier, X. Fan, Exponential inequalities for nonstationary Markov Chains. *Dependence Modeling* 7, 150-168 (2019).
- [97] with I Grublyte, D Pommeret, L Reboul. Comparing the marginal densities of two strictly stationary linear processes. *Annals of the Institute of Statistical Mathematics* <https://doi.org/10.1007/s10463-019-00730-6> (2019).
- [98] with K. Fokianos, B. Stove and D. Tjøstheim. Approximate Multivariate Poisson Autoregression. *Bernoulli* Volume 26, Number 1, 471-499 (2020).
- [99] with Alquier, P., Bertin, K. Garnier, R. High dimensional VAR with low rank transition. *Statistics and Computing*, vol 30, 1139-1153 (2020).
- [100] with Roueff, F., Rynkiewicz, J. Estimation of discrete time long memory trawl models. *Electronic Journal of Statistics*, vol 14-2, 3157-3191 (2020).
- [101] with K. Fokianos, J. Rynkiewicz. Mixtures of Nonlinear Poisson Autoregressions. *Journal of Time Series Analysis*. <https://arxiv.org/pdf/1704.02097> (2020).
- [102] with N. Mamode Khan, M. H. Neumann (2021) Mixing properties of integer-valued Skellam GARCH processes. *ALEA, Lat. Am. J. Probab. Math. Stat.* 18, 401–420. <https://arxiv.org/pdf/2005.12093> (2021).
- [103] with A. Leucht, M. Neumann. Mixing properties of non-stationary INGARCH(1,1) processes. *Bernoulli*, <https://arxiv.org/pdf/2011.05854.pdf> (2021).

Submitted

- [S1] with J. Rynkiewicz, Y. Salhi. Model selection for AR-ARCH random fields in modelling life table. https://hal.archives-ouvertes.fr/hal-02455803/file/ARARCH_SELECT_V2.pdf
- [S2] with J. M. Bardet, O. Wintenberger. Contrast estimation of general locally stationary processes using coupling. <https://hal.archives-ouvertes.fr/hal-02586009>
- [S3] with M. Neumann, L. Truquet. Ergodic properties of dynamic models with covariates. <https://arxiv.org/abs/2007.07623>

In preparation

- [P1] with J. M. Bardet, N. Bahamonde, K. Bertin. An ARMA model for incomplete ray light stellar observations.
- [P2] with N. Bahamonde, J. Rynkiewicz, Y. Sahli. INARCH random field models for population dynamics.
- [P3] with N. Bahamonde, D. Pommeret, L. Reboul. Data driven smooth test of incomplete observations.
- [P4] with N. Bahamonde, Y. Sahli. Discrete valued lifetime random fields models.
- [P5] with K. Bertin, P. Marquet, R. Rebolledo. Estimation of parameters in ecological time series.
- [P6] with A. Jakubowski, G. Lang, O. Wintenberger. Limit theory of partial sums for heavy tailed random fields.
- [P7] with G. Lang, D. Surgailis. Limit theorems for non-linear long range dependent Bernoulli shifts sequences.
- [P8] with K. Bertin, N. Klutchnikoff. Minimax estimation in a nonstationary AR(1)-model.
- [P9] with E. Gajecka. Subsampling of cyclo-stationary processes with atypical limit distributions.