Olivier WINTENBERGER

Professor Dr. in Applied Mathematics and Actuary

Personal Informations

E-mail: olivier.wintenberger@upmc.fr
Url: http://wintenberger.fr
Work address:
LSTA (Bureau 15-16 206), Boîte 158
Université Pierre et Marie Curie
4 place Jussieu
75005 Paris, FRANCE

Research interests: Heavy tailed processes, Weak dependence, Statistics for Markov chains, Online learning, Exponential inequalities.

Employment

2014-2016	**Guest professor**, Mathematical institute, Copenhagen University, Denmark
2013-	**Professor**, co-organizer of the ISUP actuarial program LSTA, Université Pierre et Marie Curie, Paris, France
2011-2014	**Affiliate researcher,** Laboratoire de Finance et Assurance, Centre de Recherche en Economie et STatistique, Malakoff, France
2008-2013	**Assistant Professor,** co-organizer of the actuarial program CEREMADE, Université Paris Dauphine, Paris, France
2004-2007	**Teaching Assistant:** École polytechnique, Palaiseau, France

Education

2012	**Habilitation à diriger des recherches**, CEREMADE, Dauphine, France
2007-2008	**Postdoctoral position** (with T. Mikosch, 1^{st} semester) Laboratory of Actuarial Mathematics, Copenhagen, Danemark
2007	**Phd in Applied Mathematics** (supervisors: J.-M. Bardet and P. Doukhan) Laboratory: SAMOS, Université Panthéon-Sorbonne, Paris, France
2004	**Master degree** in Applied Mathematics, Université Diderot, Paris, France **Diploma of Statistician-Economist** of the ENSAE, Paris, France

Research management

2012-2014	**Scientific collaboration program**, French embassy of Copenhagen,
2014-2017	**Principal Investigator of AMERISKA**, an ANR network on Statistics for heavy tailed processes, applications in food and climate risks management,
2012-2016	**Associate Editor**, Dependence Modeling,
2014-	**Associate Editor**, Extremes,
2016-	**Associate Editor**, Bernoulli,
2014-2015	**Conferences organizer:** - Université d'été des Actuaires, UPMC. - "Dependence, Limit Theorems and Applications", IHP. - 60th birthday of T. Mikosch, KU.
	Masterclass organizer, Mathematical Foundations of Heavy Tailed Analysis.
2014-	**Member of board**, Banque Finance Assurance of the SFDS society.
2014-	**Workshop co-organizer**, EVT at Jussieu, UPMC.
2017	**Conference co-organizer**, Heavy Tails and Long Range Dependence, Telecom, Paris.

PhD-Post-Doc students

2009-2012	**Cai Sixiang**. Bootstraping extreme statistics for financial applications. Supervised with J. L. Prigent and Paul Doukhan. Finance analyst.
2014-2017	**Johannes Heiny**, Extreme Eigenvalues of Sample Covariance and Correlation Matrices. Supervised mostly by T. Mikosch, Post-Doc at Aarhus.
2014-2017	**Charles Tillier**, Heavy tailed analysis to assess food risks. Supervised with P. Bertail, Post-Doc at Hamburg.
2014-	**Vincent Margot**, Online learning for time series, application in finance. Supervised with J.P. Baudry and F. Guilloux.
2017-	**Nicolas Meyer**, High dimensional learning for extremes.
2015-2016	(Post-Doc) **Pierre Gaillard**, Adaptive and Sparse Online Learning.
2012-2013	(Research assistant) **Ferdinand Torron**, ENS Cachan.

Awards and invitations

2015	**Visiting Researcher position** (August), Torun, Poland
2013	**OFPR Lecture**, ENSAE, France
2013	**PhD Course** on Extremes in Space and Time, Copenhagen, Denmark
2012	**PhD Course**, Thematic cycle, UCP, France
2011	**Elsevier Travel** award, New Frontier in Applied Probabilities.
2009	**Graduate Student Travel** award, Graybill VIII.
2007	**Laha Travel** award, IMS.

Publications

[1] C. Tillier and O. Wintenberger (2017) *Regular variation of a random length sequence of random variables and application to risk assessment*, Extremes, Online First.

[2] O. Wintenberger, (2016) *Exponential inequalities for unbounded functions of geometrically ergodic Markov chains. Applications to quantitative error bounds for regenerative Metropolis algo-*

rithms, Statistics, Special Issue in honor of Paul Doukhan, Online first.

[3] O. Wintenberger, (2016) *Optimal learning with Bernstein Online Aggregation*, Machine Learning, Online first.

[4] C. Francq, O. Wintenberger and J.-M. Zakoïan, (2016) *Goodness-of-fit tests for extended Log-GARCH models and specification tests against the EGARCH*, TEST, Online first.

[5] T. Mikosch and O. Wintenberger (2016) *A large deviations approach to limit theory for heavy-tailed time series*, Probab. Th. Rel. Fields 166, 233-269.

[6] O. Wintenberger (2015) *Weak transport inequalities and applications to exponential and oracle inequalities*, EJP, 20, 114, 1–27.

[7] T. Mikosch and O. Wintenberger (2014) *The cluster index of regularly varying sequences with applications to limit theory for functions of multivariate Markov chains*, Probab. Th. Rel. Fields 159, 157-196.

[8] J. Trashorras and O. Wintenberger (2013) *Large deviations for bootstrapped empirical measures*, Bernoulli, 20(4), 2014, 1845–1878.

[9] P. Alquier, X. Li and O. Wintenberger (2013) *Prediction of time series by statistical learning: general losses and fast rates*, Dependence Modeling, 1, 65-93.

[10] C. Francq, O. Wintenberger and J.-M. Zakoïan (2013) *GARCH models without positivity constraints: Exponential or Log GARCH?*, Journal of Econometrics 177, 34-46.

[11] O. Wintenberger (2013) *Continuous Invertibility and Stable QML Estimation of the EGARCH(1,1) Model*, Scandinavian Journal of Statistics 40, 846-867.

[12] T. Mikosch and O. Wintenberger (2013) *Precise large deviations for dependent regularly varying sequences*, Probab. Th. Rel. Fields 156, 851-887.

[13] J.-M. Bardet, W. Kengne, and O. Wintenberger (2012) *Detecting multiple change-points in general causal time series using penalized quasi-likelihood*, Electron. J. Statist. 6, 435-477.

[14] P. Alquier, O. Wintenberger (2012) *Model selection and randomization for weakly dependent time series forecasting*, Bernoulli 18 (3), 883-913.

[15] K. Bartkiewicz, A. Jakubowski, T. Mikosch, O. Wintenberger (2011) *Stable limits for sums of dependent infinite variance random variables* Probab. Th. Rel. Fields 150, 337-372.

[16] O. Wintenberger (2010) *Deviation inequalities for sums of weakly dependent time series*, Elect. Comm. in Probab. 15, 489-503.

[17] I. Gannaz, O. Wintenberger (2010) *Adaptive density estimation under weak dependence*, ESAIM Probab. Statist. 14, 151-172.

[18] J.-M. Bardet, O. Wintenberger (2009) *Asymptotic normality of the Quasi Maximum Likelihood Estimator for multidimensional causal processes*, Ann. Statist. 37, 2730-2759.

[19] P. Doukhan, O. Wintenberger (2008) *Weakly dependent chains with infinite memory,* Stoch. Proc. Appl. 118, 11, 1997-2013.

[20] P. Doukhan, O. Wintenberger (2007) *An invariance principle for weakly dependent stationary general models*, en collaboration avec P. Doukhan, Probab. Math. Statist. 27, 1, 45-73.

Book chapters and conference proceedings

[21] N. Thiemann, C. Igel, O. Wintenberger, and Y. Seldin (2017) *A strongly quasiconvex PAC-Bayesian bound*. In Proceedings of Machine Learning Research, 76 (ALT).

[22] P. Gaillard and O. Wintenberger, (2017) *Sparse Accelerated Exponential Weights*, Accepted for AISTAT 2017, JMLR.

[23] N. Ragache, O.Wintenberger (2006) *Convergence rates for density estimators of weakly dependent time series*, Dependence in Probability and Statistics, (Eds P. Bertail, P. Doukhan and P. Soulier), Lecture Notes in Statist. 187, 349-372.

Preprints

[24] R. Kulik, P. Soulier and O. Wintenberger, *The tail empirical process of regularly varying functions of geometrically ergodic Markov chains*.

[25] R. S. Pedersen and O. Wintenberger *On the tail behavior of a class of multivariate conditionally heteroskedastic processes*.

[26] T. Mikosch, M. Rezapour and O. Wintenberger *Heavy tails for an alternative stochastic perpetuity model*.

[27] F. Blasques, P. Gorgi, S. J. Koopman and O. Wintenberger *Feasible Invertibility Conditions for Maximum Likelihood Estimation for Observation-Driven Models*.