Charles TILLIER
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Single / 28 years old / Driving Licence

Research interests: *Heavy-tailed phenomena, Regular variation, Dependent time series, Markov chains, Non-life insurance mathematics, Ruin theory, Dietary risk assessment, Stochastic processes, Extreme Value Theory*.

EMPLOYMENT

2016-2017: One-year ATER position. University Paris Ouest, *Nanterre.*

2013-2016: PhD Student. University Paris Ouest, *Nanterre*. Title: « Stochastic processes and risk indicators in insurance and dietary risk assessment ». Supervision: Patrice Bertail, Professor in applied mathematics, University Paris Ouest, *Nanterre* and Olivier Wintenberger, Professor in applied mathematics, University Pierre et Marie Curie, *Paris*.

2013: Trainee-six months. Met@risk, INRA, *Paris.* Topic: Development of mathematical models related to the dietary risk assessment.

EDUCATION

2013-2016: PhD in Applied mathematics, University Paris Ouest, *Nanterre*.

2012-2013: Master degree in Applied mathematics, URCA, *Reims*.

PUBLICATIONS

- ➢ Bertail, P, Soulier, P and Tillier, C. (2017). Extremal properties and risk indicators for dietary risk assessment models with heavy-tailed intakes. *Pre-publication*.
- ➢ Tillier, C. and Wintenberger, O. (2017). Regular variation of a random length sequence of random variables and application to risk assessment. In revision for *Extremes*.
- ➢ Bertail, P., Clémençon S., Tillier C. (2016). Extreme values for Markov chains with applications to insurance. *Extreme Events in Finance: A Handbook of Extreme Value Theory and its Applications*. François Longin, Wiley. 139-170.
- ➢ Bertail P. and Tillier C. (2015). La modélisation des risques d'exposition aux contaminants alimentaires. *Risques, les cahiers de l'assurance*. N 96, 56-65.
- ➢ Tillier C. (2014). Théorie de la ruine et risque alimentaire. *SFDS publications*. Available at http://papersjds14.sfds.asso.fr/submission_254.pdf.

RESEARCH MANAGEMENT

➢ *May 2016:* Coorganizer of the two-days conference « Risk, extremes and contagion ». University Paris Ouest, see http://risksemester.ameriska.net/fr/conferences/risks-extremes-and-contagion.

➢ *January-July* 2016*:* Coorganizer of a the thematic semester on "risk and applications ", see http://risksemester.ameriska.net/fr/home.

➢ *May 2015:* Coorganizer of the "First Meeting AMERISKA Network". University Pierre et Marie Curie, *Paris*.

➢ *October* 2014*:* Coorganizer of the Workshop "Risk theory" within the laboratory Modal'X at the university Paris Ouest, *Nanterre.*

➢ *Mai 2014*: Participation to the National Agence for Research (ANR) project entitled « Analyse Multivariée des Extrêmes et du RISQue Alimentaire », see AMERIKSA - http://risksemester.ameriska.net/fr/home.

STAYS-FORMATION

2014-2017: Regular visits at the Institute of Mathematical Sciences of the University of Copenhagen, *Denmark* (one week per month), invited by Olivier Wintenberger.

June 2015: Week-long training on Extreme value theory organised by the "Mathematical Foundations of Heavy Tailed Analysis", at the university of Copenhagen, *Denmark.*

May 2015: Week-long training at the department of mathematics and statistics of the university of Ottawa, *Canada*, invited by Rafal Kulik.

July 2014: Institute of actuaries Summer school organized together with ISUP, LSTA and ENSAE, *Paris*.

June 2014: Week-long training in "Model Selection in High-Dimensional Regression and Related issues" and "Firm Selection and Labor Reallocation", at ENSAE, *Paris.*

PRESENTATIONS

Conferences:

➢ *June 2017*: 10th EVA Conference, TU Delft. *Title*: « Regularly varying Markov chains ».

➢ *Mai 2017*: 49$^{\text{ème}}$ JDS organized by SFDS, Avignon. *Title*: « Regularly varying stochastic recurrence equation ».

➢ *April 2017*: 7$^{\text{ème}}$ Rencontres des jeunes statisticiens, organized by SFDS, Porquerolles.
   Title: « Extremal properties and risk indicators for dietary risk assessment models with heavy-tailed intakes ».

➢ *June 2016*: Third ISNPS Conference. Palais des Glaces, Avignon. *Title*: « A generalization of Breiman's lemma with applications in insurance ».

➢ *September 2015*: Eurobanking, Evergreen Business Center, Issy les Moulineaux.
   Title: « Application of some statistical methods in the banking field ».

- ➢ *August 2015*: Statistics, Mathematics and Applications, organised by INRA, Villa Clythia, Fréjus. *Title*: « Extreme value statistics for general Markov chains ».
- ➢ *December 2014*: Extreme events in Finance, organised by ESSEC, Abbaye de Royaumont, Asnières-sur-Oise. *Title: «* Extreme values statistics for Markov chains with applications to Finance and Insurance »**.**
- ➢ *June 2014*: 46th JDS organised by the SFDS, Rennes. *Title:* « Risk theory and dietary risk assessment ».

Seminars:
- ➢ *September 2016*: « Regular variation of a random length sequence of random variables and application to risk assessment ». MODAL'X, University Paris Ouest, *Nanterre*.
- ➢ *May 2016*: « Regular variation for Shot Noise Processes ». Institute of Mathematical Sciences, *Copenhagen.*
- ➢ *February 2015*: « Multivariate regular variation theory and its applications ». LMR, *Reims*.
- ➢ *April 2015*: « Extreme values for Markov chains with applications to insurance ». LSTA, Jussieu, *Paris*.
- ➢ *February 2014*: « Application of ruin theory to the dietary risk assessment », LMR, *Reims*.

Other:
- ➢ *June 2017:* « Some extremal properties of Shot Noise Processes ». Second meeting Ameriska Network. Jussieu, *Paris.*
- ➢ *November 2014*: Course on "Non-life insurance mathematics" as part of the workshop "Risk theory", MODAL'X, *Paris*.
- ➢ *January 2014*: « Ruin theory and dietary risk » at the working group « Extreme Value Theory », LSTA, Jussieu, *Paris*.

Participations:
- ➢ *July 2016:* Concluding International «Rare » Conference on Risk Analysis, Ruin theory and Extremes, Rare Project. *La Baule, France.*
- ➢ *May 2016* : Dependence, Stability and Extreme, organised by Ameriska network. Fields institut, Toronto, *Canada.*
- ➢ *June 2015 :* 9th EVA, Ann Arbor, *USA*.

TEACHING

2016-2017:
- ➢ ATER (48 hours). Analyse. Bachelor's degree Economics-Law Studies, UPON, *Nanterre.*
- ➢ ATER (48 hours). Analyse. Bachelor's degree Economics-Management, UPON, *Nanterre*.

2015-2016:
- ➢ Independent contractor position (30 hours). Quantitative tools. Bachelor's degree Economics-Management, URCA, *Reims*

2014-2015:
- ➢ Independent contractor position (60 hours). Analyse. Bachelor's degree Biology, URCA, *Reims*.

- ➢ Independent contractor position (20 hours). Upgrading in Mathematics. Bachelor's degree Health and Social Sciences. URCA, *Reims*.
- ➢ Independent contractor position (30 hours). Probability. Bachelor's degree Economics-Management. URCA, *Reims*.
- ➢ Independent contractor position (30 hours). Linear Algebra. Bachelor's degree Economics-Management. URCA, *Reims*.
- ➢ Independent contractor position (30 hours). Probability and statistics. Bachelor's degree Biology. URCA, *Reims*.

2013-2014:
- ➢ Independent contractor position (60 hours). Analyse. Bachelor's degree Mathematics. URCA, *Reims*.
- ➢ Independent contractor position (20 hours). Geometry. Bachelor's degree Physics. URCA, *Reims*

2010-2013:
- ➢ Private lessons. High and Middle school (8 hours a week). Compagny Math progress. *Reims*

SKILLS AND OTHER ACTIVITIES

Computing:
- ➢ Proficient with statistical softwares: SAS, R, VBA and SPSS.
- ➢ Thorough knowledge: Java, Html, SQL, C++ and Matlab.
- ➢ Strong knowledge of Microsoft Office.

Languages:
- ➢ French: Native.
- ➢ English: Fluent.
- ➢ Spanish: Intermediate.

Interests:
- ➢ President of a sport association, vice-president and treasurer of a music association.
- ➢ Coorganizer of a music festival (July 2010) that attracted over 1,500 participants.
- ➢ Music and Sport : Guitare, swimming, futsal and mountain biking.