Arnaud Dufays

Ph.D in Economics and Management Science

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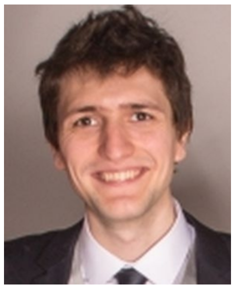

Contact

Université Namur (UNamur), Département des sciences de gestion

Rempart de la Vierge 8, B-5000 Namur, Belgium

Key information

Interests	Econometrics, Finance, Quantitative methods, Bayesian inference
Languages	French (Native), English (Very Good), Dutch (Scholar)
It abilities	Matlab, Latex, R, C++, Java, OxMetrics, Stata, Excel
Site	https://arnauddufays.com/

Professional and Educational background

Currently	F.R.S-FNRS Researcher at Université Namur (Belgium)
Currently	Visiting professor at Université Laval (Canada)
2015-2018	Assistant professor at Université Laval (Canada)
2014–2015	Post-doc. at Université Catholique de Louvain (Belgium)
2013–2014	Post-doc. at Centre de Recherche en Economie et Statistique (CREST) (France)
Jul-Nov 2013	Internship at the National Bank of Belgium (Belgium)
2009–2013	Ph.D candidate in Economics at Université Catholique de Louvain (Belgium)
2008–2009	Research master [120-ECTS] in Economics at Université Catholique de Louvain (Belgium)
2003–2008	Civil Engineering in applied mathematics at Université Catholique de Louvain (Belgium)

Visiting

May-Jun 2017	Université Namur.
May-Aug 2012	HEC Montréal under the supervision of Jeroen Rombouts.

Grants

2019-2020	SAS/IIF research grant (5000 USD with Pr. Ardia).
2017-2018	SSHRC-CRSH: Développement Savoir (27.747 CAD/year).
2015-2018	Fonds Québecois de la Recherche - société et culture (15.000 CAD/year).

Published Papers

1. Dufays, A. and Rombouts, J., ‘Relevant parameter changes in structural break models’, Accepted in **Journal of Econometrics**, 2019. **[Paper]**, **[Video]**.
2. Augustinyak, M. and Dufays A., ’ Modeling macroeconomic series with regime-switching models characterized by a high-dimensional state space’, **Economic Letters**, 2018, 170, 122-126. **[Paper]**, **[Code]**, **[Video]**.
3. Augustinyak, M. and Bauwens, L. and Dufays A., ’A new approach to volatility modelling: the factorial hidden Markov volatility model’, **Journal of Business and Economic Statistics**, 2018, 1-14. **[Paper]**, **[Code]**, **[Video]**.
4. Dufays A. and Rombouts, J. ’Sparse Change-point HAR Models for Realized Variance’, **Econometric Reviews**, 2018, 1-24. **[Paper]**, **[Video]**.
5. Bauwens, L., Carpantier J.-F., and Dufays A., ’Autoregressive Moving Average Infinite Hidden Markov-Switching Models’, **Journal of Business and Economic Statistics**, 2017, 35(2), 162-182. **[Paper]**.
6. Dufays A., Infinite-State Markov-switching for Dynamic Volatility, **Journal of Financial Econometrics**, 2016, 14 (2): 418-460. **[Paper]**, **[Code]**, **[Video]**.
7. Dufays A., ’Evolutionary Sequential Monte Carlo samplers for Change-point models’, **Econometrics**, 2016, 4(1), 12. **[Paper]**, **[Code]**, **[Video]**.
8. Bauwens L., De Backer B. and Dufays A., ’A Bayesian method of Change-point estimation with recurrent regime : Application to GARCH Models’, **Journal of Empirical Finance**, 2014, 29, 207-229. **[Paper]**.
9. Bauwens L., Dufays A. and Rombouts J., ’Marginal Likelihood Computation for Markov Switching and Change-point GARCH Models’, **Journal of Econometrics**, 2013, 178 (3), 508-522. **[Paper]**, **[Code]**.

Ongoing research

1. Ardia, D. and Dufays, A. and Ordas, C., ’Bayesian and classic change-point models: the missing link’, 2019.
2. Dufays, A. and Houndetoungan, A. and Coën, A., ’Selective linear segmentation for detecting relevant parameter changes’, 2019. R&R in Journal of Financial Econometrics. **[Draft]**.
3. Dufays, A. and Li Zhuo and Rombouts, J. and Song Y., ‘Sparse Change-point VAR models’, 2019. Submitted to Journal of Econometrics. **[Draft]**, **[Video]**.
4. Donfack M. and Dufays A., ‘Modeling time-varying parameters using artificial neural networks: A GARCH illustration‘, 2018. **[Draft]**.
5. Boucher V. and Dedewanou F. and Dufays A., ‘Peer-Induced Beliefs Regarding College Participation‘, 2018. **[Draft]**.

Refeering activities

Journal of Econometrics, Journal of Business and Economic Statistics, Journal of Applied Econometrics, Journal of Financial Econometrics, Econometrics and Statistics, Journal of Empirical Finance, Studies in Nonlinear Dynamics and Econometrics, International Journal of Forecasting, Empirical Economics, Journal of the Royal Statistical Society: Series B, Journal of Banking and Finance, Computational Statistics and Data Analysis (CSDA), Statistical Inference for Stochastic Processes, Société Française de Statistique.

Conferences

Dec 2019	12th international conference of the ERCIM Computing and Statistics, **London**.
Jun 2019	13th RCEA Bayesian Econometrics Workshop, **Larnaca**.
Dec 2018	11th international conference of the ERCIM Computing and Statistics, **Pisa**.
Jun 2018	Conference of the International Association for Applied Econometrics (IAAE), **Montréal**.
Apr 2018	Workshop on forecasting from complexity, **Minneapolis**.
Dec 2017	10th international conference of the ERCIM Computing and Statistics, **London**.
Jun 2017	SoFiE Conference, **New-York**.
Dec 2016	9th international conference of the ERCIM Computing and Statistics, **Sevilla**.
Jun 2016	Melbourne Bayesian Economic Workshop, **Melbourne**.
Dec 2015	8th international conference of the ERCIM Computing and Statistics, **London**.
Nov 2014	European Seminar on Bayesian Econometrics (ESOBE), **Paris**.
Jun 2014	Conference of the International Association for Applied Econometrics (IAAE), **London**.
Dec 2013	6th international conference of the ERCIM Computing and Statistics, **London**.
Dec 2012	5th international conference of the ERCIM Computing and Statistics, **Oviedo**.
Aug 2012	Rimini Conference in Economics and Finance 2012, **Toronto**.
Dec 2011	4th international conference of the ERCIM Computing and Statistics, **London**.
Nov 2011	European Seminar on Bayesian Econometrics (ESOBE), **Brussels**.
Aug 2011	10th OxMetrics User Conference, **Maastricht**.
May 2011	Econometric and statistical modelling of multivariate time series, **Louvain-la-Neuve**.
Dec 2010	3rd international conference of the ERCIM Computing and Statistics, **London**.

Seminars

Dec 2019	Université de Saint-Louis, **Bruxelles**.
Nov 2019	HEC Montréal, **Montréal**.
Oct 2019	HEC Liège, **Liège**.
Oct 2019	Center for Operations Research and Econometrics (UCL), **Louvain-la-Neuve**.
Sep 2019	DeFipp seminar, **Namur**.
Mar 2019	Aix-Marseille School of Economics, **Marseille**.
Feb 2019	Maastricht University, **Maastricht**.
Nov 2018	ShanghaiTech University, **Shanghai**.
Nov 2018	Université de Neuchâtel, **Neuchâtel**.
Mar 2018	Université de Montréal, **Montréal**.
May 2017	Namur University, **Namur**.
Mar 2016	McMaster University, **Hamilton**.
Nov 2015	Université de Montréal, **Montréal**.
Sep 2015	Université Laval, **Québec**.
Jan 2015	Université Laval, **Québec**.
Jan 2015	Carleton University, **Ottawa**.
Oct 2014	Université Paris 1 Panthéon - Sorbonne, **Paris**.
Oct 2014	Ecole Nationale de la Statistique et de l'Administration économique - Bayesian in Paris, **Paris**.
Feb 2014	National Bank of Belgium, **Brussels**.
Feb 2014	Center for Operations Research and Econometrics (UCL), **Louvain-la-Neuve**.
Jan 2014	Centre de Recherche en Economie et Statistique (CREST), **Paris**.

Teaching activities

2018	**M.Sc. and Ph.D.** - ECN-7330 Économétrie Bayesienne - Université Laval.
2015-2018	**M.Sc. and Ph.D.** - ECN-7320 Économétrie financière - Université Laval.
2015-2018	**B.A.** - ECN-1040 Mesure des grandeurs économiques - Université Laval.
2014	**Ph.D.** - 2-days course - IRTG 1792 course on CP/MS models, **Berlin**.
2013-2014	**B.A.** - Lecturer - Applied Econometrics : Time Series - UCL.
2013	**M.Sc. and Ph.D.** - TA of the spring course : Bayesian Econometrics, **Coimbra**.
2009-2012	**M.Sc. and Ph.D.** - TA of the course : Advanced Econometrics - UCL.

PhD supervision, member of thesis committees and Master supervision

2016-current	Morvan Nongni Donfack, Université Laval, **Thesis Advisor: Arnaud Dufays**.
May 2018	Jean-Armand Gnagne, Université Laval, Thesis Advisor: Kevin Moran.
Oct 2017	Abdellah Manadir, Université Laval, Thesis Advisor: Kevin Moran.
Jun 2017	Nettey Boevi Gilles Koumou, Université Laval, Thesis Advisor: Benoit Carmichael.
Sep 2016	Ali Yedan, Université Laval, Thesis Advisor: Bernard Fortin.
Jun 2017	Mylène Lonko, Maitrise avec essai, **Master thesis advisor: Arnaud Dufays**.
Jun 2017	Yosra Salhi, Maitrise avec essai, **Master thesis advisor: Arnaud Dufays**.

Thesis information

Title	**Modeling structural changes in volatility.**
Committee	Luc Bauwens (Université Catholique de Louvain) Sébastien Van Bellegem (Université Catholique de Louvain) Jeroen Rombouts (ESSEC Business School) Herman K. Van Dijk (Erasmus University Rotterdam) Yukai Yang (Université Catholique de Louvain)