

Johanna Nešlehová, Ph.D.

Personal information

Czech citizen, born in Prague (Czech Republic), July 26, 1977
Currently applying for permanent resident status in Canada

Fluent in Czech, English, German
Working knowledge of Norwegian

Education

Vordiplom, Mathematics and Computer Science
Univerzita Karlova v Praze (Prague, Czech Republic)
and Universität Hamburg, Hamburg (Germany), 1999

Diploma, Mathematics and Computer Science
Universität Hamburg, Hamburg (Germany), 2000

Ph.D., Mathematics (Dr. rer. nat.), *Summa Cum Laude*
Carl von Ossietzky Universität Oldenburg, Oldenburg (Germany), 2004

Fellowships

Robert Vogel Scholarship, Universität Hamburg, 1997–1998
Ferdinand und Emma Beit Stiftung, Universität Hamburg, 1998–1999

Individual research grants

Research Grant, Swiss RE, 10,000 CHF per year, 2006–2009
McGill Startup Grant, McGill University, 40,000 CDN in total, 2010–2013
Discovery Grant, Natural Sciences and Engineering
Research Council of Canada, 15,000 CDN per year, 2010–2015
Subvention pour nouveaux chercheurs, Fonds québécois de la
recherche sur la nature et les technologies, 20,000 CDN per year, 2010–2012

Awards and distinctions

DAAD Award for Foreign Students
Carl von Ossietzky Universität Oldenburg, 2001

Record of employment

a) Current position

Assistant Professor, Department of Mathematics and Statistics
McGill University, Montréal (QC), 2009–

Adjunct Professor, Université Laval, Québec (QC), 2008–

b) Previous positions

Research Fellow, RiskLab

ETH Zürich (Switzerland) 2004–2006

Research Fellow, McLean Hospital

Harvard Medical School, Boston (MA), 2006

Heinz Hopf Lecturer, Departement Mathematik

ETH Zürich (Switzerland) 2006–2009

Membership in professional societies

Statistical Society of Canada / Société statistique du Canada (SSC)

Czech Statistical Society

Editorial work

Guest Editor, special issue of the *Journal of Probability and Statistics*, 2010

Referee for numerous journals in probability, statistics, actuarial science, finance, hydrology, and operations research

Service to the profession

Member, Pierre Robillard Award Committee, SSC, 2010–

Member, Scientific Committee, Workshop on Copula Modeling and Dependence, Centre de recherches mathématiques, Montréal (QC), June, 2011

Member, Scientific Committee, 7th Conference on Multivariate Distributions with Applications, Maresias (Brazil), August, 2010

Member, Organizing Committee, Statistics Summer School, McGill University, Montréal (QC), June, 2010

Member, Scientific Committee, 36th International ASTIN Colloquium and 15th International AFIR Colloquium, Zürich (Switzerland), September, 2005

Member, Local Organizing Committee, 4th German Open Conference on Probability and Statistics (“Hamburger Stochastik-Tage”), Hamburg (Germany), March, 2000

Teaching activities

a) Undergraduate courses

At McGill University: Honors Probability (2009, 2010), Introduction to Statistics (2010), Mathematical Statistics I (2010)

At ETH Zürich: Quantitative Risk Management (2006, 2007, 2008)

At Universität Oldenburg: Elementary Mathematics (2001–2004), Mathematical Analysis and Linear Algebra (2000–2002)

b) Graduate courses

At McGill University: Mathematical Statistics I (2010)

At ETH Zürich: Copula Modeling (2008), Discrete Data Analysis (2007), Extreme-Value Theory (2006), Finance and Insurance Mathematics (2005), Quantitative Risk Management (2006)

c) Workshops and educational training

Workshop on copula modeling, its implementation in R, with applications in finance and insurance. Presented at the 38th Annual Meeting of the Statistical Society of Canada, Québec (QC), May 23, 2010 [with C. Genest].

Workshop on copula modeling and extreme-value theory. Presented at the Universitet i Stavanger, Norway, May 3–8, 2010.

Quantitative risk management. Presented to the members of the members of the *German Financial Supervisory Authority* (BaFin), Bonn (Germany), June 19–21, 2006 [with P. Embrechts].

Extreme-value theory and dependence modeling. Presented to the members of the Board of Governors of the *Federal Reserve System* and the *Federal Reserve Bank of Boston*, Boston (MA), September 21–30, 2005 [with P. Embrechts].

The “e-stat” project. Presented to the attendees of *CeBIT2003, Center for Distributed eLearning*, Hannover, Germany, March 13–20, 2003.

The “e-stat” project. Presented to the attendees of *Learntec2003*, German Federal Ministry of Education and Research (BMBF), Karlsruhe, Germany, February 4–7, 2003.

Student supervision

a) Ph.D. students

Noomen Ben Ghorbal (2010). *Étude de certaines mesures d’association multivariées et d’un test de dépendance extrême fondés sur les rangs.* Université Laval, Québec (QC) [Main advisor: C. Genest].

b) M.Sc. students

1. Marjan Beheshty (2009). *Analysis of Claims Data with Copulas.* ETH Zürich.
2. Andrea Peter (2009). *Inversion Formulas for the Laplace Transform.* ETH Zürich.
3. Natalie Larsen (2008). *A Comparative Study of Threshold Selection Procedures in Extreme Value Theory.* ETH Zürich [Co-supervisor: P. Embrechts].
4. Martin Larsson (2008). *Tail Properties of Multivariate Archimedean Copulas.* ETH Zürich.
5. Anne Feidt (2007). *Extreme Value Theory for Discrete Random Variables.* ETH Zürich [Co-supervisor: P. Embrechts].
6. Andres Mora (2006). *A Comparative Study of Selected Extreme Value Index Estimators.* ETH Zürich [Main advisor: P. Embrechts].
7. Sandra Sigrist (2006). *Modeling Dependence for Operational Risk.* ETH Zürich [Main advisor: P. Embrechts].

c) Undergraduate students

1. Ye Ting Du (2010). *Tests for Extremeness Based on the Extension of the Ghoudi–Khoudradi–Rivest Statistics.* McGill University.

2. Gabriel Doyon (2010). *Bivariate Extreme-Value Copulas*. McGill University.
3. Alain Helfenstein (2008). *Stein's Paradox*. ETH Zürich.
4. Georgios Zonzilos (2008). *Summarizing Properties of the Hill Estimator of the Extreme Value Tail Index*. ETH Zürich.
5. Bruno Catalino (2007). *Tests für elliptische Symmetrie*. ETH Zürich [Co-supervisor: P. Embrechts].
6. Vincent Peikert (2007). *Inversion Procedure for the Kendall Function*. ETH Zürich [Co-supervisor: P. Embrechts].

Invited talks

1. 38th Annual Meeting of the Statistical Society of Canada, Québec (QC), May 26, 2010
2. Scientific Day of the DGVMF (Deutsche Gesellschaft für Versicherungs- und Finanzmathematik), Bremen (Germany), April 30, 2010
3. University of Waterloo, Waterloo (ON), March 26, 2010
4. McGill University, Montréal (QC), February 12, 2010
5. Séminaire de mathématiques actuarielles et financières de Montréal, Montréal (QC), January 22, 2010
6. Université Laval, Québec (QC), April 14, 2009
7. McGill University, Montréal (QC), March 5, 2009
8. Universität Ulm, Ulm (Germany), February 6, 2009
9. Universität Nürnberg, Nürnberg (Germany), February 4, 2009
10. University of Connecticut, Storrs (CT), January 15, 2009
11. 2nd Vine Copula Workshop, Delft (The Netherlands), December 17, 2008
12. Swiss Probability Seminar, Bern (Switzerland), November 26, 2008
13. Joint Statistical Meetings, Denver (CO), August 6, 2008

14. Joint Meeting of the Statistical Society of Canada and the Société française de statistique, Ottawa (ON), May 29, 2008
15. Université catholique de Louvain, Louvain-la-Neuve (Belgium), April 16, 2008
16. Workshop on Copulae: Theory and Praxis, Berlin (Germany), December 7, 2007
17. Univerzita Karlova v Praze, Prague (Czech Republic), November 7, 2007
18. Universität Heidelberg, Heidelberg (Germany) July 15, 2007
19. (sfi)2 Workshop on Quantitative Risk Management, Norsk Regnesentral, Oslo (Norway), April 24, 2007
20. Cherry Bud Workshop, Keyo University, Tokyo (Japan), March 16, 2007
21. Heriot-Watt University, Edinburgh (Scotland), December 6, 2006
22. Boston University, Boston (MA), September 12, 2006
23. Dresdner Forum zur Versicherungsmathematik, Dresden (Germany), June 23, 2006
24. École polytechnique fédérale de Lausanne, Lausanne (Switzerland), June 2, 2006
25. Universidad Nacional Autónoma de México, México (DF), March 28, 2006
26. Technische Universität Wien, Wien (Austria), December 6, 2005
27. CARISMA Workshop on Extreme Value Theory and Copulas, Brunel University, London (UK), November 29, 2005
28. Risk Day, Zürich (Switzerland), October 21, 2005
29. Universität Bern, Bern (Switzerland), June 17, 2005
30. Implementing AMA for Operational Risk, Federal Reserve Bank of Boston, Boston (MA), May 19, 2005
31. ETH Zürich (Switzerland), January 13, 2005
32. 34th International ASTIN Colloquium, Berlin (Germany), August 25, 2003

Contributed talks

1. Prague Stochastics, Prague (Czech Republic), September 2, 2010
2. Conference for the 50th anniversary of copulas, Lecce (Italy), June 11, 2009
3. 8th German Open Conference on Probability and Statistics, Aachen (Germany), March 6, 2008
4. 8th Conference on Multivariate Statistics and 6th Conference on Multivariate Distributions with Fixed Marginals, Tartu (Estonia), June 27, 2007
5. Risk Day, Zurich (Switzerland), October 21, 2005
6. 36th International ASTIN Colloquium, Zurich (Switzerland), September 4–7, 2005
7. Workshop on the Interface between Quantitative Finance and Insurance, Edinburgh (Scotland), April 4–8, 2005
8. 54th Congress of the International Statistical Institute, Berlin (Germany), August 13–20, 2003

Publications

a) Book

E. Cramer & J. Nešlehová (2008). *Vorkurs Mathematik*. Springer, Berlin (Germany), xii + 443 pp. [four editions to date].

b) Peer-reviewed articles

1. A. Feidt, C. Genest & J. Nešlehová (2010). Asymptotics of joint maxima for discontinuous random variables. *Extremes*, 13, 35–53.
2. C. Genest, I. Kojadinovic, J. Nešlehová & J. Yan (2010). A goodness-of-fit test for bivariate extreme-value copulas. *Bernoulli*, 16, in press.
3. C. Genest, J. Nešlehová & N. Ben Ghorbal (2010). Spearman's footrule and Gini's gamma: A review with complements. *Journal of Nonparametric Statistics*, 22, in press.

4. A.J. McNeil & J. Nešlehová (2010). From Archimedean to Liouville copulas. *Journal of Multivariate Analysis*, 101, 1772–1790.
5. N. Ben Ghorbal, C. Genest & J. Nešlehová (2009). On the Ghoudi, Khoudraji, and Rivest test for extreme-value dependence. *The Canadian Journal of Statistics*, 37, 534–552.
6. P. Embrechts, J. Nešlehová & M.V. Wüthrich (2009). Additivity properties for value-at-risk under Archimedean dependence and heavy-tailedness. *Insurance: Mathematics and Economics*, 44, 164–169.
7. C. Genest & J. Nešlehová (2009). Analytical proofs of classical inequalities between Spearman’s rho and Kendall’s tau. *Journal of Statistical Planning and Inference*, 139, 3795–3798.
8. A.J. McNeil & J. Nešlehová (2009). Multivariate Archimedean copulas, d -monotone functions and ℓ_1 -norm symmetric distributions. *The Annals of Statistics*, 37, 3059–3097.
9. Z. Landsman & J. Nešlehová (2008). Stein’s lemma for elliptical random vectors. *Journal of Multivariate Analysis*, 99, 912–927.
10. C. Genest & J. Nešlehová (2007). A primer on copulas for count data. *The ASTIN Bulletin*, 37, 475–515.
11. J. Nešlehová (2007). On rank correlation measures for non-continuous random variables. *Journal of Multivariate Analysis*, 98, 544–567.
12. V. Chavez-Demoulin, P. Embrechts & J. Nešlehová (2006). Quantitative models for operational risk: Extremes, dependence and aggregation. *Journal of Banking and Finance*, 30, 2635–2658.
13. J. Nešlehová, P. Embrechts & V. Chavez-Demoulin (2006). Infinite mean models and the LDA for operational risk. *Journal of Operational Risk*, 1, 3–25.
14. D. Pfeifer & J. Nešlehová (2004). Modeling and generating dependent risk processes for IRM and DFA. *The ASTIN Bulletin*, 34, 333–360.
15. D. Pfeifer & J. Nešlehová (2003). Modeling dependence in finance and insurance: The copula approach. *Blätter der Deutschen Gesellschaft für Versicherungs- und Finanzmathematik*, 26, 177–191.

c) Manuscripts under review

1. C. Genest, J. Nešlehová & J. Ziegel. Estimation in multivariate Archimedean copula models. Submitted to *TEST* on August 11, 2010.
2. C. Genest, J. Nešlehová & J.-F. Quessy. Tests of symmetry for bivariate copulas. Submitted to *The Annals of Statistical Mathematics* on July 29, 2010.
3. C. Genest, J. Nešlehová & N. Ben Ghorbal. Estimators based on Kendall's tau in multivariate copula models. Submitted to *The Australian and New Zealand Journal of Statistics* on June 14, 2010.
4. M.O. Larsson & J. Nešlehová. Extremal behavior of Archimedean copulas. Revision submitted to the *Applied Probability Trust* on August 15, 2010.

d) Other peer-reviewed publications

1. R. Zitikis, E. Furman, A. Necir, J. Nešlehová & M.L. Puri (2010). Editorial for the special issue entitled "Actuarial and financial risks: Models, statistical inference, and case studies." *Journal of Probability and Statistics*, in press.
2. E. Cramer & J. Nešlehová (2003). (e)Learning the basics of probability. *Proceedings of the International Statistical Institute*, 54th Congress, Berlin (Germany).

e) Book reviews

1. J. Nešlehová (2007). Review of the book entitled "Fractal-Based Point Processes," by S.B. Lowen & M.C. Teich. *Journal of the American Statistical Association*, 102, 382–383.
2. J. Nešlehová (2005). Review of the book entitled "Weibull Models," by P.D.N. Murthy, M. Xie & R. Jiang. *Journal of the American Statistical Association*, 100, 1094.

f) Theses

1. J. Nešlehová (2004). *Dependence of Non-Continuous Random Variables*. Dissertation (supervised by D. Pfeifer), Carl von Ossietzky Universität Oldenburg. Shaker Verlag, Aachen (Germany).

2. J. Nešlehová (2000). *Asymptotically Optimal Permutation Two-Sample Tests for Bivariate Survival Times under Univariate Censorship*. Diploma thesis (supervised by G. Neuhaus), Universität Hamburg, Hamburg (Germany).

g) Educational material

1. C. Genest & J. Nešlehová (2010). *Copulas: Introduction to the Theory and Implementation in R, with Applications in Finance and Insurance*. Course material for the workshop presented at the 38th Annual Meeting of the Statistical Society of Canada, Québec (QC), May 23, 2010.
2. J. Nešlehová (2010) Workshop on Copula Modeling and Extreme-Value Theory. Course material for the workshop presented at the Universitetet i Stavanger, Stavanger (Norway), May 3–8, 2010.
3. P. Embrechts & J. Nešlehová (2006). *Operational Risk*. Course material for the German Financial Supervisory Authority (BaFin), Bonn (Germany), June 19–21, 2006.
4. P. Embrechts & J. Nešlehová (2006). *Extreme Value Theory and Copulae*. Audio presentation, Henry Stuart Publications, Risk Management Series (Satchell, Ed.), Trinity College, Cambridge (England).
5. J. Nešlehová (2005). *Multivariate Extreme Value Theory and Copulas*. Course material for the Federal Reserve Bank of Boston, Boston (MA).
6. E. Cramer, K. Cramer & J. Nešlehová (2004). *Multimedia-Based Course and Learning Platform on Descriptive Statistics and Basics of Probability*. Within the framework of the “EMILeA-stat” project; used in mathematical studies class at the Gymnasium Osterbek, Hamburg (Germany).

Last update: September 2, 2010