

Curriculum Vitae of Dr. Pranesh Kumar

THE UNIVERSITY OF NORTHERN BRITISH COLUMBIA, CANADA

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1. **SURNAME:** Kumar **FIRST NAME:** Pranesh
MIDDLE NAME(S):

2. **Address** Department of Mathematics and Statistics,
University of Northern British Columbia,
Prince George, BC V2N 4Z9, Canada

3. **Rank:** Professor

4. **Qualifications:** PhD (Statistics), MSc (Statistics)

5. **Research Areas:**

- Fuzzy logic and data analysis
- Prediction Modeling
- Climate indicators and predictions
- Copula based resampling
- Financial data analysis
- Sample Surveys

6. **Graduate Students Supervised and/or Co-Supervised (Since Year 2000)**

Student Name	Program Type	Year	
		Start	Finish
Cigdem Guloksuz	Post-Doc	August 2018	September 2019
Jiefei Yang	Mitacs GRI	1 July, 2018	30 September, 2018
Andrew Agbonigha	MSc	2015	2018
Akin Akinola	MSc	2015	2018
Waqar Younas	PhD	2009	2014
Raj D	MSc	2012	2014
Famarz Kashanchi	MSc	2011	2013
Viktoria Bassarguina	MSc	2008	2011
Claude Hurtubise	MSc	2004	2008
Tyler Neilson	M.Sc.	2003	2006
Bruce Rogers	M.Sc.	2002	2006
Adrain E. Batho	M.Sc.	2002	2007
Rumiana Kormak	M.Ed.	2001	2003

7. SCHOLARLY AND PROFESSIONAL ACTIVITIES

(a) *Research or equivalent grants at UNBC*

Granting Agency	Subject	Amount	Year	Principal Investigator	Co-Inv
NSERC	Prediction methodology using Lp-norm based regression models	\$20,000	2016-18	Pranesh Kumar	
Office of Research, UNBC	Prediction methodology using Lp-norm based regression models	\$10,000	2016-18	Pranesh Kumar	
Health Research Institute, UNBC	Pursuing Integration: Case Studies of Organizational Transformation.	\$10,000	2016-17	Pranesh Kumar	Northern Health, Provincial Health
City of Prince George	Archaeological Risk Framework Tool	\$68,809	2016-17	Norcan Consulting	Pranesh Kumar
UNBC	Statistical modeling and stochastic dependence structure of the natural gas prices in relation to demand, supply and economic growth indicators.	\$ 3,196	2013	Pranesh Kumar	
NSERC	Significance Measure and Result Replicability in Prediction Modelling	\$85,000	2009-14	Pranesh Kumar	
NSERC	The development and application of multivariate statistical analysis-based models for real-time NBSK pulp quality prediction	\$16,100	2010	Pranesh Kumar	
NSERC	Mathematical Inequalities in Probability & Statistics.	\$30,000	2001-05	Pranesh Kumar	
UNBC	Replicability and stability of stochastic models.	\$ 2200	2003	Pranesh Kumar	
CIHR	ACADRE planning.	\$ 48150	2001	*	P. Kumar

(b) *Member Editorial Board*

1. Australian Journal of Mathematical Analysis and Applications
2. Journal of Model Assisted Statistics & Applications
3. Journal of the Indian Society of Agricultural Statistics
4. Journal "Jnanabah"
5. Journal of Applied Stat. & Probability
6. Sri Lankan Jour. of Applied Stats.

(c) *Reviewer*

1. Journal of Modern Applied Statistical Methods
2. The Canadian Journal of Statistics
3. Mathematical reviews
4. Annales des Sciences Mathematique du Quebec
5. Statistical Methodology

6. Applied Mathematics Letters
7. IEEE Transactions on Knowledge and Data Engineering
8. Institute of Industrial Engineers (IIE)
9. Journal of the Indian Society of Agricultural Statistics
10. Indian Journal of Mathematics
11. Australian Journal of Mathematics Analysis and Applications
12. Computers and Mathematics with Applications
13. Journal of Statistical Planning & Inference
14. Journal of Model Assisted Statistics & Applications
15. Journal of Inequalities in Pure and Applied Mathematics
16. Operational Research Society
17. National Research Foundation, South Africa
18. Saudi Annals of Research
19. Czech Science Foundation

1. **REFEREED PUBLICATIONS**

(a) ***Journals***

At UNBC (from 1999)

[143] 100. Pranesh Kumar and Mohamadtaghi Rahimi (2019), “L_p-REGRESSION BASED PREDICTIONS WITH STANDARDIZED VARIABLES”, JP Journal of Biostatistics, Volume 16, Number 1, 2019, Pages 91-101 (<http://dx.doi.org/10.17654/BS016010091>).

[142] 99. Pranesh Kumar (2018), “Copula Functions and Applications in Engineering”, Chapter in book entitled “Logistics, Supply Chain and Financial Predictive Analytics”, p. 1-15, Springer Nature Singapore Pte Ltd.

[141] 98. M. Rahimi, P. Kumar and G.H. Yari (2018), “Credibility measure for intuitionistic fuzzy variables”, Mathematics, 6(4), 50; <https://doi.org/10.3390/math6040050>.

[140] 97. G Yari, M Rahimi and Pranesh Kumar (2017), “Multi-period Multi-criteria (MPMC) Valuation of American Options Based on Entropy Optimization Principles”, Iran J Sci Tech Trans Sci, p. 1-6, DOI 10.1007/s40995-017-0206-0.

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[138] 95. Pranesh Kumar and M Rahimi (2017), “Modelling Worldwide CO₂ Emissions and Oil Consumption based on the L₁, L₂ and L_∞-norm Regressions”, Proceedings of International Conference on Recent Advances in Pure and Applied Mathematics (ICRAPAM 2017), Kusadasi / Turkey.

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[136] 93. G Yari, M Rahimi, B Moomivand, Pranesh Kumar (2016), “Credibility Based Fuzzy Entropy Measure”, Australian Jour. Mathematical Analysis and Applications, 13, 1, Article 11, p. 1-7.

[135] 92. R Farnoosh, M Rahimi and Pranesh Kumar (2016), “Removing noise in a digital image using a new entropy method based on intuitionistic fuzzy sets”, Proceedings of FUZZ-IEEE 2016, p.1-.

- [134] 91. Gholamhossein Yari¹, Mohamadtaghi Rahimi, Pranesh Kumar (2016), “Multi-Period Multi-Criteria (MPMC) Valuation of American Options Based on Entropy Optimization Principles”, Iranian Jour Science and Technology, Springer, p. 1-8.
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- [132] 89. E. Dobrowolski and P. Kumar (2014). Some Properties of the Marshall-Olkin and Generalized Cuadras-Auge Families of Copulas. The Australian Journal of Mathematical Analysis and Applications, Volume 11, Issue 1, Article 2, p. 1-13. <http://ajmaa.org>
- [131] 88. Hemantha S. B. Herath & Pranesh Kumar (2014): Using copula functions in Bayesian analysis: a comparison of the lognormal conjugate, The Engineering Economist: A Journal Devoted to the Problems of Capital Investment, DOI: 10.1080/0013791X.2014.962719, p. 1-26.
- [130] 87. Faramarz Kashanchi and Pranesh Kumar (2014). Copulas Applications in Estimating Value-at-Risk (VaR): Iranian Crude Oil Prices. Journal of Data Science, Vol 12, No 3, p.1-24. <http://www.jds-online.com/>
- [129] 86. Pranesh Kumar and Faramarz Kashanchi (2014). Linear regression models using L1, L2 and L ∞ norms, Proceedings of the 21st International Conference on Computational Statistics (5th IASC World Conference), p. 1-6.
- [128] 85. Hemantha S. B. Herath, Pranesh Kumar & Amin H. Amershi (2013). Crack spread option pricing with copulas, Journal of Economics and Finance, 37:100–121.
- [127] 84. Pranesh Kumar (2013). Some Aspects of Statistical Significance in Statistics Education, Proceedings of the 59th World Statistics Congress (WSC), p. 1-6. http://www.isi2013.hk/en/scientific_list_All_STS.php
- [126] 83. P. Kumar, “Statistical Inference Using Copulas and Application to Analyze Effect of Storage of the Red Blood Cells on Erythrocyte Adenosine Triphosphate Levels”, Essays on Mathematics and Statistics: Volume 3, Ed by Vladimir Akis, 151-160, ATINER 2013.
- [125] 82. Khine Khine Su-Myat, Jules J. S. de Tibeiro, Pranesh Kumar, “An Integrated Approach to Regression Analysis in Multiple Correspondence Analysis and Copula Based Models”, J. Stat. Appl. Pro. 1, No. 2, 1-21, 2012.
- [124] 81. Pranesh Kumar, “Statistical Dependence: Copula Functions and Mutual Information Based Measures”, J. Stat. Appl. Pro. 1, No. 1, 1-14, 2012.
- [123] 80. Pranesh Kumar, “Copula based Probabilistic Measures of Uncertainty with Applications”, Proceedings of the 58th World Statistics Congress, Dublin, Ireland, 1-6, 2011.
- [122] 79. Hemantha S. B. Herath, Pranesh Kumar and Amin H. Amershi, “Crack spread option pricing with copulas”, Journal of Economic Finance, DOI 10.1007/s12197-011-9171-1, February, 2011.
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- [119] 76. Pranesh Kumar, “*Probability distributions and estimation of Ali-Mikhail-Haq Copula*”, Applied Mathematical Sciences: Journal for Theory & Applications, 4, 13-16, 657-666, 2010.

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- [107] 64. Pranesh Kumar and M. M. Shoukri, “*Copula Functions for Modelling Dependence Structure with Applications in the Analysis of Clinical Data*”, J. Indian Soc. Agric. Statist., 61(2), p. 179-191, August 2007.
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- [102] 59. Hemantha S.B. Herath and Pranesh Kumar, "On Simple Binomial Approximations for Two Variables in Finance Applications". Advances in Investment Analysis and Portfolio Management, 2005.
- [101] 58. Hemantha S.B. Herath and Pranesh Kumar, "Multinomial Approximating Models for Options". Advances in Investment Analysis and Portfolio Management, 2005.
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Prior to 1999

[81] 38. P. Kumar, T. S. Mwamwenda and A. Dye, "*Incentive-driven research at the University of Transkei*", Research in Education, 61,49-53, May 1999.

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[75] 32. A. Herzel and P. Kumar, "*On a class of congruent sample designs and their properties*", Statistica, L, 4, 471-482, 1990.

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- [65] 22. S. K. Agarwal and P. Kumar, "On two auxiliary variates in ratio method of estimation", *Biometrical Jour.*, 27, 2,1985.
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[47] 4. S. K. Agarwal and P. Kumar, "Combination of PPS and ratio estimators", *Jour.of Ind.Soc .of Agric.Statis.*,XXXII,1,81-86,1980.

[46] 3. I. J. Singh and P. Kumar, "Impact of price and price variability on acreage allocation", *Ind. Jour. of Agric. Economics*, XXXI, 2, 1976.

[45] 2. P. Kumar and V. K. Gupta, "Agricultural efficiency in Haryana", *Jour. of Research, Haryana Agricultural University*, 1975.

[44] 1. P. Kumar and M. G. Sardana, "Economic analysis of fertilizer trials on pearl millet", *Ind. Jour. Agric. Sc.*,43,8,817-820,1973.

(b) Conference Proceedings

[43] 4. Hemantha Herath, Pranesh Kumar, Chan Park , "Survey of Copulas: Application to Capital Budgeting and Real Options", *Dynamic Decisions in Engineering Economy, IIE Annual Conference, Orlando, May 2006.*

[42] 3. Pranesh Kumar, "Modeling Life-Lengths Of Components Of A System Sharing A Common Environment", *Reliability and Maintainability, IIE Annual Conference, Portland, Oregon, March 2003.*

[41] 2. P. Kumar and R. J. Yadav, "Use of repeated Latin squares in analyzing the multiple bio-medical responses", International Meeting on Statistics for Repeated Measurements, Bressano/ Brixen, 1989.

[40] 1. P. Singh, R. J. Yadav and P. Kumar, "Adoption of family planning practices and associated factors", International Meeting on Official Statistics, Bilbao, Spain, 1989.

(c) Book Chapters

[39] 5. Pranesh Kumar, "Hermite-Hadamard Inequalities and Their Applications in Estimating Moments", Mathematical Inequalities & Applications, Nova Science Publishers, NY (Accepted).

[38] 4. Pranesh Kumar, "Moments Inequalities of a Random Variable Defined over a Finite Interval". Inequality Theory and Applications, Y. J. Cho, J. K. Kim, S. S. Dragomir; Eds., Volume 2, Nova Science Publishers, NY, pp.146-164, 2003.

[37] 3. V. K. Gupta, A. K. Nigam and P. Kumar, "On inclusion probability proportional to size selection procedures", Silver Jubilee Souvenir(1954-1984), *Ind.Soc.Ag.Stat.*, Delhi, 260-266, 1984.

[36] 2. P. Kumar, B. S. Goel and V. K. Gupta, "On estimation in unequal probability without replacement sampling", Silver Jubilee Souvenir (1954-1984), *Ind.Soc.Ag.Statist.*, Delhi, 254-259, 1984.

[35] 1. P. Kumar and K. N. Rai, "Analysis of trends in the agricultural and industrial wages in Haryana", in Problems and Perspectives, edited and published by the Sri Ram Center for Industrial Relations, Delhi, 1975.

(d) Refereed Technical Papers

- [34] 12. P. Kumar, "*Some epidemiological investigations into estimating the incidence rates from the prevalence data*", URP# 4013, University of Transkei, South Africa, 1998.
- [33] 11. P. Kumar, "*Utilizing auxiliary information in reducing sampling errors in surveys*", URP# 4008, University of Transkei, South Africa, 1997.
- [32] 10. P. Kumar, "*Empirical investigations into the efficiency of estimators in multiple-character studies*", URP#4098, University of Transkei, South Africa, 1996.
- [31] 9. P. Kumar, "*On the choice of auxiliary variables when using ratio and product methods of estimation*", Economics Department, Discussion Paper No. 94-21, Bilkent University, December, 1994.
- [30] 8. P. Kumar, "*Some estimators of the population totals in multiple-character surveys*", Economics Department, Discussion paper No.94-20, Bilkent University, November, 1994.
- [29] 7. A. Herzel and P. Kumar, "*Sample size and efficiency in random sampling without replacement*", Serie A - Recherche, No. 20, Diptt. Stat. Prob. e Stat. Appl., University of Rome, 1988.
- [28] 6. A. Herzel and P. Kumar, "*On implementing sample designs in sampling from finite populations*", Serie A - Recherche, No. 19, Diptt. Stat. Prob. e Stat. Appl., University of Rome, 1988.
- [27] 5. P. Kumar and A. Herzel, "*Estimating population totals of multiple characteristics*", Serie A - Recherche, No. 17, Diptt. Stat. Prob. E Stat. Appl., University of Rome, 1988.
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- [25] 3. P. Kumar and A. K. Srivastava, "*Study of price behavior of vegetables:use of fractile graphical analysis*", Ind.Ag.Stat. Res.Inst., Delhi, 1982.
- [24] 2. P. Kumar, "*Some observations on and suggestions to the fishery statistics program in Philippines*", SCSP/UNDP, Manila, Philippines, 1979.
- [23] 1. H. Russell Shaw and P. Kumar, "*Long term projections and more general system of analysis of economic data*", Policy and Analysis Division: FAO (UN), Rome, 1979.

2. NON-REFEREED PUBLICATIONS**Project Reports**

- [22] 7. "*Evaluation of primary school nutrition program(PSNP): Assessment of food quality and quantity issues*", University of Transkei, South Africa, 1998.
- [21] 6. "*Statistical methodology for testing criteria and indicators for the sustainable management of forests*", Center for International Forestry Research (CIFOR), Indonesia, 1996.
- [20] 5. "*Study of the design effects and sampling errors in the NMS designs*", Swedish International Development Agency/Bureau of Statistics, Planning Commission, Tanzania, 1992.

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