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# Mathematics and Statistics Faculty of Science

Probability and Statistics Group

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Université d'  
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*Mayer ALVO*

*Professor*

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*Research Profile:*

*Dr. Alvo studies non-parametric statistics, general randomized block designs, and non-null models for ranking data. He also does spatial statistics for assessing trends in acid deposition with reference to the Great Lakes, for acid rain model evaluation and for analysis of satellite data with reference to forest management.*

*Keywords: ranks, nonparametric, trends, sequential methods, Bayesian spatial statistics, environmental statistics.*

*Home Page: <http://www.mathstat.uottawa.ca/prof/alvo.htm>*

*Yves ATCHADE*

*Assistant Professor*

*Ecole Nationale de Statistique et D'Économie Appliqué (Cote d'Ivoire)  
Ingenieur, 1988, Montréal PhD 2003*

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*Research Profile:*

*Dr. Atchadé works on Markov Chain Monte Carlo algorithms with a particular view towards hierarchical Bayesian models in medicine. His current research interests in Monte Carlo methods involve what is now called Adaptive Markov Chain Monte Carlo (MCMC) algorithms. These algorithms can self-adapt to the problem at hand, and can sometimes also be seen as the next generation of MCMC algorithms capable of solving very complicated models where classical MCMC samplers typically fail. He intends to apply this framework to the computational learning of the genetic regulatory network.*

*Keywords: adaptive MCMC, Hierarchical Bayes models*

*Home Page: <http://www.mathstat.uottawa.ca/~yatch436/>*

*Raluca BALAN*

*Assistant Professor*

*BSc, MSc: Bucharest, Romania (1996, 1997) PhD: Ottawa (2001)*

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*Research Profile:*

*Dr. Balan studies Markov processes, set-indexed (or multiparameter) processes, Bayesian nonparametric statistics, limit theory for dependent sequences, Voronoi images on the plane, generalized estimating equations and analysis of longitudinal data.*

*Keywords: Markov processes, Bayesian nonparametric statistics, limit theorems, generalized estimating equations*

*Home Page: <http://aix1.uottawa.ca/~rbalan/>*

*André DABROWSKI*

*Professor*

*BSc 1977, MSc 1978: Ottawa U,  
MS 1980, PhD 1982: Illinois (Urbana)*

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*Research Profile:*

*Dr. Dabrowski pursues topics in probability theory and statistics. He studies limiting distributions and behaviours for novel statistics or new classes of data, particularly those arising from biological or telecommunications applications. He is developing expertise in the statistical analysis of microarray data in genomics.*

*Keywords: Statistical dependence, Limit theorems in Probability*

*Home Page: <http://aix1.uottawa.ca/~ardsg/>*

Gail IVANOFF

Professor

B.Sc, 1972 M.Sc. 1973: Toronto, Ph.D. 1977, Carleton.

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*Research Profile:*

*Dr. Ivanoff's research in probability theory is focussed on stochastic processes indexed by multidimensional time parameters or classes of sets. In particular, she develops the dynamical properties of such processes. Examples include martingale, Markov and renewal properties. This theory has many applications to point processes, survival analysis, and the statistical analysis of spatial data.*

*Keywords: martingale, Markov process, renewal process, set-indexed process*

Home Page: <http://www.mathstat.uottawa.ca/~givanoff/>

*David McDONALD*

*Professor*

*B.Sc, Toronto 1970; M.Sc. King's College London 1971*

*Ph.D. Montréal, 1976.*

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*Research Profile:*

*Analysis of rare events such as buffer overflows in a network of queues; analysis of large deviations of Markov additive processes; performance of the internet protocols, TCP and HTTP, when many connections share a congested router.*

*Keywords: Large deviations, Markov chains, telecommunication queues.*

*Home Page: <http://www.mathstat.uottawa.ca/profs/mcdonald/homepage/>*

*David SANKOFF*

*Professor*

*BSc '63, MSc '65, PhD '69: McGill; Canada Research Chair*

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*Research Profile:*

*Development of models, algorithms and statistical inference procedures for the comparative analysis of different genomes. Dr. Sankoff is applying mathematical approaches to the study of genes and genomes. The projects he is undertaking seeks to expand this field on several fronts including: the probabilistic modeling of the evolution of bacteria, protists and higher organisms; and the consequences of mechanisms like chromosome translocation and inversion, and gene and genome duplication for gene order evolution.*

*Keywords: algorithms, applied probability, computational biology, bioinformatics, sociolinguistics*

*Home Page: <http://albuquerque.bioinformatics.uottawa.ca>*

*Mahmoud ZAREPOUR*

*Associate Professor*

*BSc 1986: Mashhad, MSc 1988: Shiraz, PhD 1997: Toronto*

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*Research Profile:*

*Dr. Zarepour pursues research into resampling, nonparametric Bayesian inference, and infinite variance random variables. The behaviour of heavytailed time series with application to financial series is of particular interest. He uses simulation extensively to motivate and explore the qualitative behaviour of such series, and to test the applicability of his theories to actual monetary trends.*

*Keywords: Bootstrap, Dirichlet process, stable process, asymptotic*

*Home Page:*

*<http://www.mathstat.uottawa.ca/prof/zarepour.htm>*

**Bio-Statistics position/Poste bio-statistique**

The Department of Mathematics and Statistics of the University of Ottawa invites applications of recent Ph.D.s for a tenure-track position in Bio-Statistics starting July 1, 2005 at the rank of assistant professor. For the first 5 years, the candidate will spend half time in the department and the other half in the McLaughlin Centre for Population Health Risk Assessment, Institute of Population Health. After 5 years, the position will revert to full time in the Department.

The closing date for receipt for applications is December 15, 2004.

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Le Département de mathématiques et de statistique de l'Université d'Ottawa met au concours un poste en bio-statistique au rang de professeur adjoint menant à la permanence. Entrée en fonction: le 1er juillet 2005. Pour les premiers cinq ans, le candidat consacrer la moitié de son temps au département et l'autre moitié au McLaughlin Centre for Population Health Risk Assessment, Institute of Population Health. Après, il deviendra professeur à plein temps au département de mathématiques et de statistique.

Les candidat(e)s doivent faire parvenir leur dossier de candidature au plus tard le 15 décembre 2004.

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### Seminars

<http://www.mathstat.uottawa.ca/~yatch436/Seminar/>

<http://www.math.carleton.ca:16080/~jarai/seminar.html>



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