Alexandru Amărioarei · *Curriculum vitae*

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DOMAINES DE RECHERCHE	Statistique de scan, distribution de motifs et patterns, méthodes de Monte Carlo	

ÉTUDES ET DIPLÔMES

Université de Sciences et Technologies de Lille, Lille, France — 2010–2014

Thèse de doctorat, *Date de soutenance:* 15 Septembre 2014

- Titre: *Approximations for Multidimensional Discrete Scan Statistics*
- Directeur de Thèse: Cristian Preda, Ph.D
- Rapporteurs: Joseph Glaz, Claude Lefevre
- Examinateurs: Stéphane Robin (Président), Azzouz Dermoune, George Haiman, Manuela Sidoroff

Université de Bucarest, Bucarest, Roumanie

Master 2 (Mathématiques Appliquées), — 2008–2010

- Titre: *Chaîne de Markov avec applications en biologie* (en roumain)
- Directeur: Ioan Cuculescu

Licence de Mathématiques, — 2004–2008

- Titre: *Concepts semi-riemanniennes* (en roumain)
- Directeur: Ianus Stere

EXPÉRIENCE PROFESSIONNELLE

ATER — 2013–2015
Génie Informatique et Statistique (GIS),
Polytech'Lille

Doctorant — 2010–2014
Laboratoire de Mathématiques Paul Painlevé,
UMR CNRS 8524, Université de Sciences et Technologies de Lille

Assistant Chercheur — 2009–2010
Département de Bioinformatique,
National Institute of R&D for Biological Sciences,
Bucarest, Roumanie

ACTIVITIÉS D'ENSEIGNEMENT

ATER à Polytech'Lille, France — 2013–2015

- Mise à niveau math, Cours + TD
- Structures Mathematiques, TD
- Probabilités, TD + TP (R)
- Statistique Inférentielle, TD + TP (SAS et R)
- Chaîne de Markov, TD + TP (R - projets)
- Analyse numerique, TP (Matlab)

Vacataire à la Faculté de Mathématiques, Université de Bucarest — 2009–2010

- Langages Formels, TD

Vacataire au Lycèe Gheorghe Sincai, Bucarest, Roumanie — 2008–2009

- Cours de mathématiques, niveau lycée (prèparation Baccalaurèat)

PUBLICATIONS DANS DES REVUES

1. **A. Amărioarei**, C. Preda (2014), Approximation for two-dimensional discrete scan statistics in some block-factor type dependent models, *Journal of Statistical Planning and Inference, Vol. 151-152, pag. 107-120*, DOI:10.1016/j.jspi.2014.05.002.

2. **A. Amărioarei**, C. Preda (2013), Approximation for the distribution of three-dimensional discrete scan statistics, *Methodology and Computing in Applied Probability*, DOI: 10.1007/s11009-013-9382-3.

3. **A. Amărioarei**, M. Sidoroff (2009), A first step in scan statistics, *Romanian Biological Science Vol.VII, Nr.1-4*

4. J. Jack, M. Sidoroff, I. Stanciu, **A. Amărioarei**, V. Boscaiu, S. Popescu, M. Ciucu, A. Paun (2009), Modeling of Biochemical Signaling with the Memory NWT algorithm, *Romanian Biological Science Vol. VII, Nr. 1-4*

PRÉ-PUBLICATIONS

1. **A. Amărioarei** (2012), Approximation for the distribution of extremes of one dependent stationary sequences of random variables.

CONFÉRENCES AVEC COMITÉ DE LECTURE

1. **A. Amărioarei**, C. Preda (2013) Approximation for two-dimensional discrete scan statistics in some dependent models, In *Proceedings of 15th Conference of the Applied Stochastic Models and Data Analysis (ASMDA) International Society*, Barcelona, Spain, June 2013.

ARTICLES EN COURS DE RÉDACTION

1. **A. Amărioarei**, Approximations for the distribution of the longest increasing run based on a scan statistic approach.

2. **A. Amărioarei**, A general scan statistic and the influence of the shape of the scanning window.

3. **A. Amărioarei**, C. Preda, Approximations for multidimensional continuous scan statistics over Poisson processes.

COMMUNICATIONS À DES CONFÉRENCES, SYMPOSIUMS ET AUTRES COLLOQUES

1. **A. Amărioarei** (2015), Approximations for the length of the longest monotone run in a sequence of i.i.d. r.v.'s, *The 18th Conference of Romanian Society of Statistics and Probability* Bucarest, Mai 2015.

2. **A. Amărioarei**, C. Preda (2014) Survey on approximation methods for scan statistics: a software illustration, 7th *International Workshop on Applied Probability (IWAP2014)*, Antalya, Turkey, Juin 2014.

3. C. Preda, **A. Amărioarei**, M. Genin (2014) Two dimensional discrete scan statistics with arbitrary scanning window, 7th *International Workshop on Applied Probability (IWAP2014)*, Antalya, Turkey, Juin 2014.

4. C. Preda, **A. Amărioarei** (2014) Approximation for the scan statistics distribution of a three dimensional Poisson process, 7th *International Workshop on Applied Probability (IWAP2014)*, Antalya, Turkey, Juin 2014.

5. **A. Amărioarei** (2014) Efficient simulation methods for scan statistics: a comparison study, *The 17th Conference of Romanian Society of Statistics and Probability* Bucarest, Avril 2014.

6. **A. Amărioarei**, C. Preda (2013) Approximation for two-dimensional discrete scan statistics in some block-factor dependent models, *IMS-China International Conference on Statistics and Probability*, Chengdu, China, Juin 2013.

7. **A. Amărioarei**, C. Preda (2013) Approximation for two-dimensional discrete scan statistics in some dependent models, *The 16th Conference of Romanian Society of Statistics and Probability* Bucarest, Avril 2013.

8. **A. Amărioarei**, C. Preda (2012) Approximations for the three-dimensional discrete scan statistics, *International Workshop on Applied Probability*, Jerusalem, Israel, Juin 2012.

9. **A. Amărioarei**, C. Preda (2012) Approximations for the three-dimensional discrete scan statistics, *The 15th Conference of Romanian Society of Statistics and Probability* Bucarest, Avril 2012.

10. **A. Amărioarei**, C. Preda (2011) Approximations for the three-dimensional discrete scan statistics, *International Conference on Advances in Probability and Statistics - Theory and Applications,* Hong Kong, SAR China, Decembre 2011. (in the honor of N. Balakhrishnan).

11. **A. Amărioarei** (2011) The Markov Chain Imbedding Technique-Applications to Scan Statistics, *The 14th Conference of Romanian Society of Statistics and Probability*, Bucarest, Avril 2011.

SÉMINAIRES

1. **A. Amărioarei** (2015) Approximations for the distribution of scan statistics and applications, *Séminaire de Statistique, IRMA*, Strasbourg, Février 2015.

2. **A. Amărioarei** (2014) Scan Statistics: Theory and Applications, *Séminaire de Probabilité et Statistique du Laboratoire de Mathématiques Paul Painlevé*, Lille, Mars 2014.

3. **A. Amărioarei** (2014) Approximations for One and Two Dimensional Scan Statistics with Applications, *Statistics for System Biology Seminar*, Paris, Novembre 2014.

4. **A. Amărioarei** (2012) Approximations for the Distribution of the Three Dimensional Scan Statistics, *Séminaire de l'Équipe MODAL*, Albiez, Janvier 2012.

POSTERS

1. **A. Amărioarei**, M. Genin, C. Gower, C. Preda, M. Sidoroff (2014) Detecting Crohn's disease clusters using spatial scan statistics, *Symposium on Modern Biotechnological Advances for Human Health*, Bucarest, Mai 2014.

SOFTWARE

1. **Scan Statistics Simulator**: interface graphique fonctionnant sous Matlab, permettant de trouver la répartition de la statistique de scan discrete dans les cas uni, bi- et tri-dimmensionnels sous différents modèles de distributions.

PARTICIPATION À DES PROJETS DE RECHERCHE

1. 2010, Participation à la création et au depôt du Projet MedPlaNet (projet financé $\approx$ 1.5 million €)

2. 2010, Projet BIOSIS 62-056/2008-*Bioinformatics system for protein conformation analysis*

3. 2009-2010, Projet Noyau *BIODIV*

4. 2009-2010, National Research Plan II, Contract no. 11-066/2007-*Simulation of cells using Membrane Systems*

MOBILITÉ INTERNATIONALE

1. ICGEB: Bioinformatics Course, Trieste, Italie (Juin 2010)

RÉFÉRENCES

Joseph Glaz
Department of Statistics, University of Connecticut
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Claude Lefèvre
Department of Mathematics, Université Libre de Bruxelles
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Cristian Preda
Professor of statistics, Polytech'Lille
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