

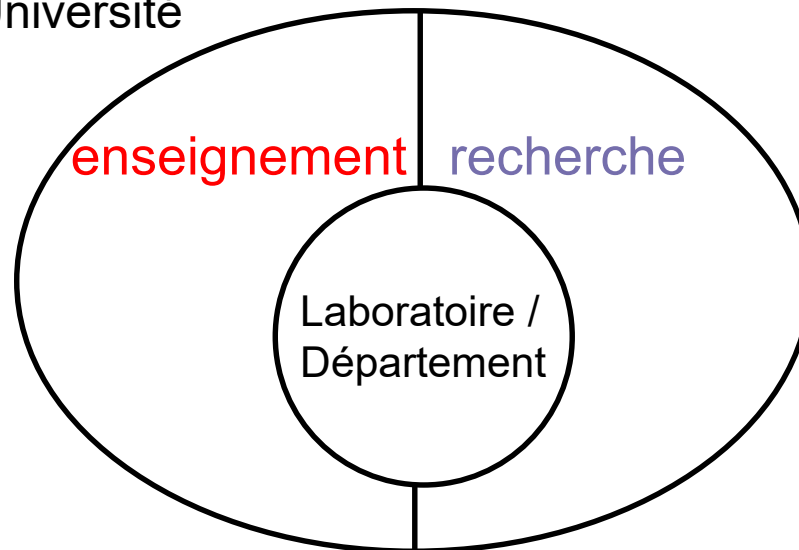


Laboratoire de Mathématiques de Versailles

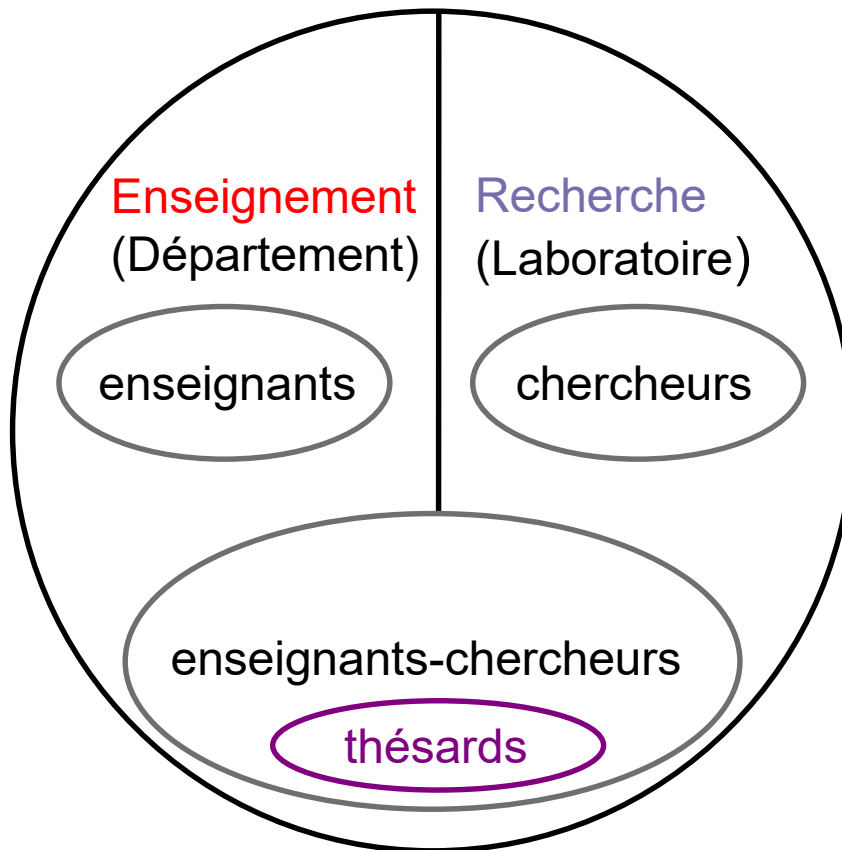
Qu'est-ce qu'un laboratoire de mathématiques ?



Université



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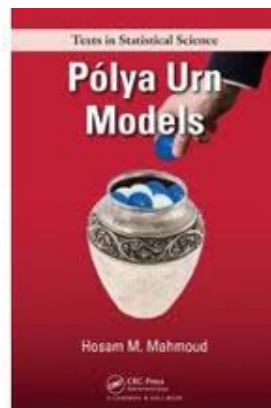
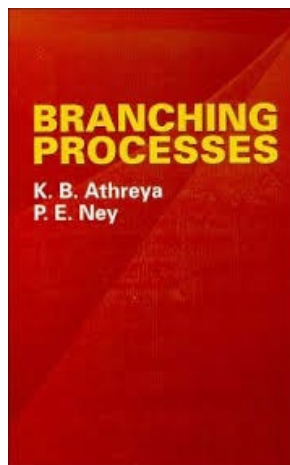
3 équipes :

- Algèbre et Géométrie
- Analyse et équations aux dérivées partielles
- Probabilités et Statistiques

Comment aborder un problème de recherche ?

Comprendre ce qui est déjà connu sur le problème choisi :

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articles

Functional limit theorems for multitype branching processes and generalized Pólya urns

Svante Janson*

Department of Mathematics, Uppsala University, PO Box 480, Uppsala S-751 06, Sweden

Received 20 February 2003; received in revised form 11 November 2003; accepted 1 December 2003

Abstract

A functional limit theorem is proved for multitype continuous time Markov branching processes. As consequences, we obtain limit theorems for the branching process stopped by some stopping rule, for example when the total number of particles reaches a given level.

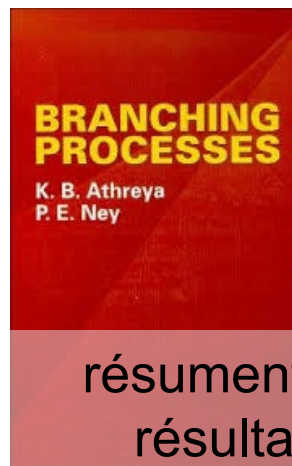
Using the Athreya–Karlin embedding, these results yield asymptotic results for generalized Pólya urns. We investigate such results in detail and obtain explicit formulas for the asymptotic variances and covariances. The general formulas involve integrals of matrix functions; we show how they can be evaluated and simplified in important special cases. We also consider the numbers of drawn balls of different types and functional limit theorems for the urns.

We illustrate our results by some examples, including several applications to random trees where our theorems and variance formulas give simple proofs of some known results; we also give some new results.

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livres



résumant les
résultats
principaux déjà
connus



articles

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derniers développements,
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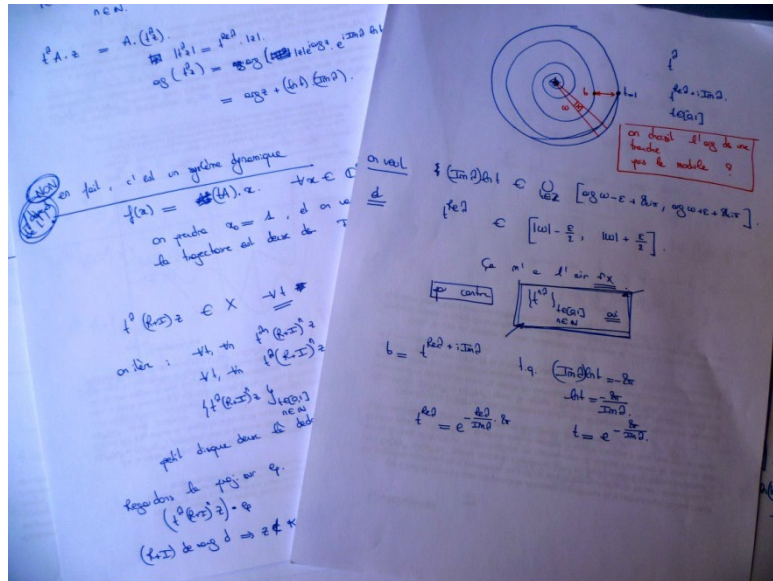
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Puis, on travaille :

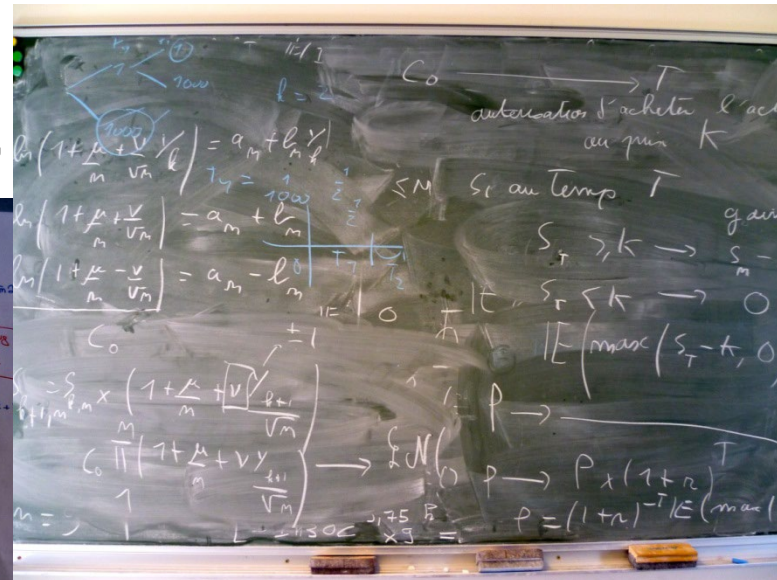
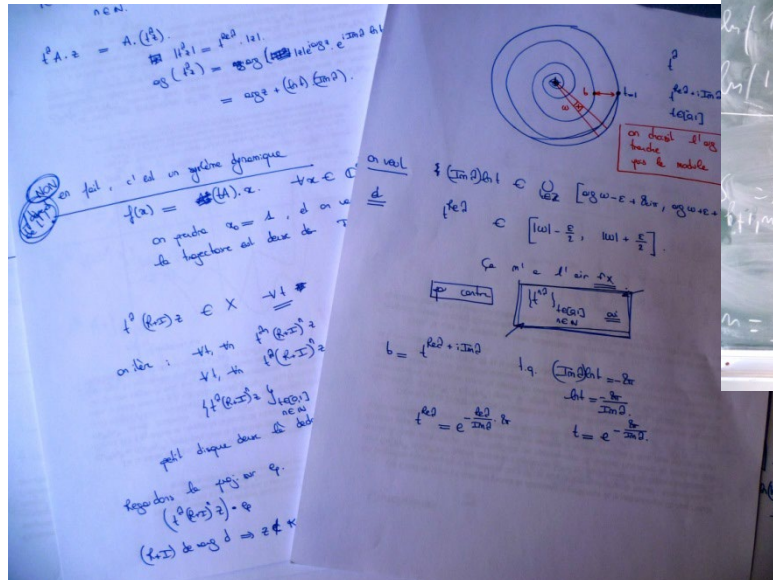
On choisit une direction, et on l'explore...



Comment aborder un problème de recherche ?

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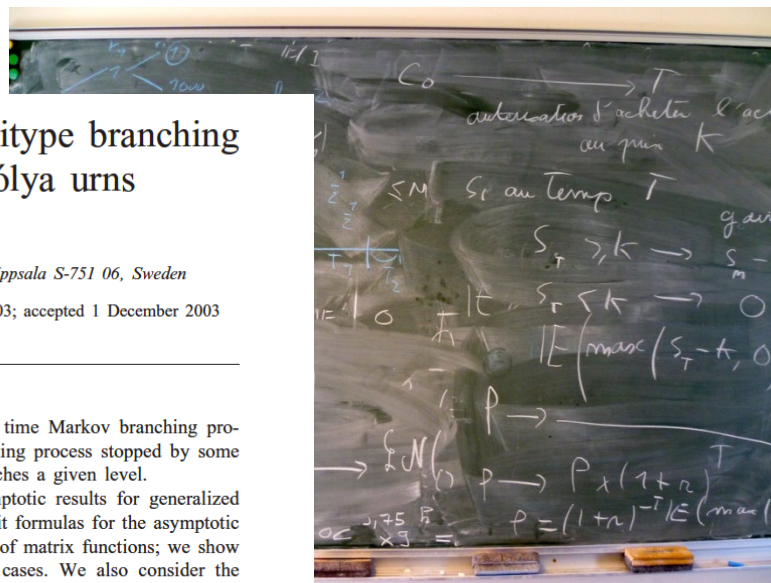
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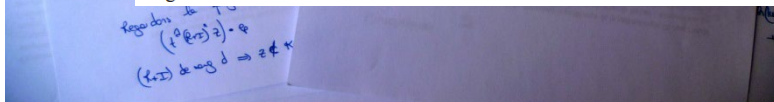
Functional limit theorems for multitype branching processes and generalized Pólya urns

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Theorem is proved for multitype continuous time Markov branching processes, we obtain limit theorems for the branching process stopped by the time when the total number of particles reaches a given level. By using the Karlin embedding, these results yield asymptotic results for generalized Pólya urns. We investigate such results in detail and obtain explicit formulas for the asymptotic behavior. The general formulas involve integrals of matrix functions; we evaluate and simplify in important special cases. We also consider different types of urns and functional limit theorems for the urns. Results by some examples, including several applications to random graphs, where our theorems and variance formulas give simple proofs of some known results; we give some new results.



Comment aborder un problème de recherche ?

Puis, on travaille :



Comment aborder un problème de recherche ?

Smoothing equations for large Pólya urns¹

May 29th 2013

BRIGITTE CHAUVIN, CÉCILE MAILLER, NICOLAS POUYANNE,

Université de Versailles-St-Quentin,
Laboratoire de Mathématiques de Versailles,
CNRS, UMR 8100,
45, avenue des Etats-Unis,
78035 Versailles CEDEX, France.

Theorem 9 *Let X and Y be integrable solutions of any fixed point equation (15) or (18). Then, X and Y admit absolute moments of all orders $p \geq 1$ and the probability distributions of $|X|$, $|Y|$, X and Y are determined by their moments.*

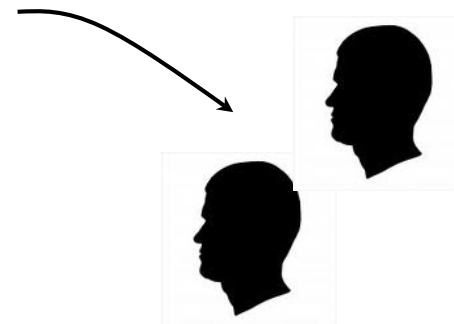
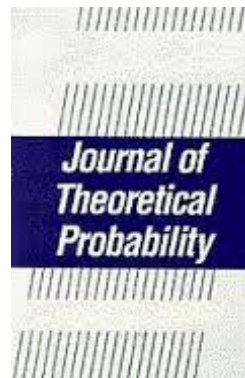
Publier ses résultats

Smoothing equations for large Pólya urns¹

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processus de soumission

Diffuser ses résultats



et apprendre encore plus
de nouvelles choses...

La bibliothèque de recherche

Pour comprendre ce qui est déjà connu sur un problème, les derniers résultats et développements.

- Les livres
- Les périodiques
- Les bases de données



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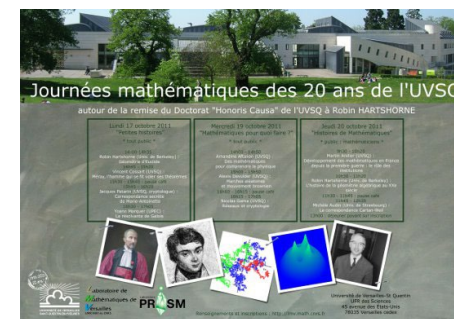
- ⇒ Mettre a disposition des chercheurs la documentation dont ils ont besoin.
- ⇒ À la bibliothèque et sur Internet
- ⇒ En collaboration avec la BU et le RNBM



Les séminaires, colloques et conférences

Organisés par le laboratoire

- Pour diffuser ses résultats, écouter les résultats d'autres chercheurs
- Pour rencontrer d'autres chercheurs et échanger des idées
- Pour partager les connaissances avec le grand public





Bon stage !