



الجمهورية الجزائرية الديمقراطية الشعبية  
وزارة التعليم العالي والبحث العلمي  
جامعة قسنطينة 1 – الإخوة منتوري  
كلية العلوم الدقيقة



PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA  
MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH  
Constantine 1 University – Frères Mentouri  
Faculty of Exact Sciences

## ANNONCE DE SOUTENANCE



Conformément à la décision n° **81/D3C/2026** du **18 Juin 2026** autorisant la soutenance d'une thèse de doctorat, le Vice-doyennat chargé de la post-graduation, de la recherche scientifique et des relations extérieures, a n n o n c e la soutenance publique d'une thèse de doctorat le :

**Lundi 06 Juillet 2026 à 16 H00**

Lieu : Salle de conférences sise au Campus Ahmed HAMANI (ZERZARA)  
Constantine 1 Frères Mentouri.

**Filière** : MATHEMATIQUES

**Spécialité** : Probabilités et Statistique

**Doctorante** : **BOUSTILA Ranya**

Sur le thème : « Non parametric estimation for censored DATA ».

Devant le jury d'examen :

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# A b s t r a c t

In this thesis, we focus on nonparametric kernel methods. Throughout this work, the response variable is assumed to be real-valued and subject to censoring, while the explanatory variable is functional, taking values in an infinite-dimensional space.

First, we consider the case where the response variable is right-censored. We study the estimator of the cond.dist. function and establish its asymptotic properties, including  $al.com.conv$  with rate. We then prove the mean square convergence of the estimator and deduce the  $al.com.conv$  with rate of the corresponding cond.quan. estimator.

Second, we extend the analysis to the case where the response variable is twice censored. In this setting, we investigate the cond.dist. estimator and derive its asymptotic behavior by showing  $al.com.conv$  with rate. We also demonstrate its mean square convergence and subsequently obtain the  $al.com.conv$  with rate of the associated cond.quan.

Finally, to provide additional support for the theoretical results, a simulation study is conducted to evaluate the performance and accuracy of the proposed estimators.