

الجمهورية الجزائرية الديمقراطية الشعبية  
وزارة التعليم العالي و البحث العلمي  
**People's Democratic Republic of Algeria**  
**Ministry of Higher Education and Scientific Research**

University Mohammed Seddik Ben yahia - Jijel  
Faculty of Nature and Life Sciences  
Department of Molecular and Cell Biology



جامعة محمد الصديق بن يحيى - جيجل  
كلية علوم الطبيعة والحياة  
قسم البيولوجيا الجزيئية والخلوية

**Thesis**

Presented by **RIANE Karima**

In Fulfillment of the Requirements for the Degree of Doctor  
In Biology and Health  
(Doctorate 3<sup>rd</sup> cycle LMD)  
Option: Applied Microbiology

**Antioxidant efficiency of probiotic bacteria and  
their role in reducing drug toxicity**

**Examiners committee**

**Chairman:** Pr. LAHOUEL Mesbah *University Mohamed SeddikBenyahia-Jijel*  
**Supervisor:** Pr. SIFOUR Mohamed *University Mohamed SeddikBenyahia-Jijel*  
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**Salle des conférences audiovisuelles**  
**Bloc des langues**  
**21 Novembre 2019**  
**A 9h00**

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