

## **Entropy approach for bioacoustics signal analysis of repetitive notes**

### **Abstract**

This paper discusses a method for analyzing animal sound by using information theory namely the Shannon entropy. The basic principle of the theory is first presented, together with the spectral centroid. The well known spectral centroid is used as a reference for result comparison. To assess the performance and suitability of the proposed method, sound from 15 Australian frog species are used as test samples. The sound from these animal species are first segmented into syllables. The Shannon entropy value of the syllables are then determined, and compared to spectral centroid value. It is found that the syllables of the frogs sound have entropy that is different from one to another even from the same species. On the other hand, from the spectral centroid analysis, it is found that almost all of the syllables of frogs sound (from the same species) have a unique frequency value which implies that their sounds are highly consistent with repetitive note.