



## SUJET DE THESE G-SCOP 2024

**Titre de la thèse** : Approximation Algorithms for Clustering and Ordering Problems

**Directeur(s) de thèse** : Alantha Newman

**Co-directeur de thèse** :

**Co-encadrant(s)** :

**Ecole doctorale** : MSTII

**Date de début** (souhaitée) : 01/10/2024

**Financements envisagés – Contexte – Partenaires éventuels** : [allocation classique](#)

**Description du sujet** :

The project concerns designing approximation algorithms for clustering problems on graphs (e.g. correlation clustering) and/or designing algorithms for ordering problems where the objects to be ordered can be vertices of a graph (e.g. feedback vertex set) or elements from another domain (e.g. high dimensional vectors). The objective is to develop and extend recently introduced tools and techniques based on efficiently solvable relaxations, information theory and discrepancy theory for approximation algorithms.

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