Designing high performance channel assignment schemes to harness the potential of multi-radio multi-channel deployments in wireless mesh networks (WMNs) is an active research domain. A pragmatic channel assignment approach strives to maximize network capacity by restraining the endemic interference and mitigating its adverse impact on network performance. Interference prevalent in WMNs is multi-faceted, radio co-location interference (RCI) being a crucial aspect that is seldom addressed in research endeavors. We propose a set of intelligent channel assignment algorithms, which focus primarily on alleviating the RCI.

Interference mitigation is a primary design objective in WMNs. However, numerous CA schemes have been proposed in research literature and there is a lack of CA performance prediction techniques which could assist in choosing a suitable CA for a given WMN. We propose a reliable interference estimation and CA performance prediction approaches named CDAL_cost and CXLS_wt.

**Current Problems:**

<table>
<thead>
<tr>
<th>Research Problem</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimizing Functions</td>
<td>As of now, TID is the only optimizing function and there is a generic algorithm only for TID. Since CDAL_cost and CXLS_wt are new and better metrics, we want to generate generic algorithms for both of the above mentioned metrics.</td>
</tr>
<tr>
<td>Enhancement of Proposed Metrics</td>
<td>Determine flaws in our algos and propose enhanced versions of CDAL_cost and CXLS_wt. Enhance them and extend it to Random WMNs.</td>
</tr>
</tbody>
</table>

**Name:** M Pavan Kumar Reddy  
**Roll Number:** cs12b1025
Publications:

Journal:
- Interference mitigation in wireless mesh networks through radio co-location aware conflict graphs (Publisher: Springer)

Conferences:
- Radio Co-location Aware Channel Assignment for Interference Mitigation in Wireless Mesh Networks (Conference: ICACCI-15)
- Predicting Performance of Channel Assignments in Wireless Mesh Networks through Statistical Interference Estimation (Conference: CONECCCT-15)
- Reliable prediction of channel assignment performance in wireless mesh networks (Conference: ICACCI-15)