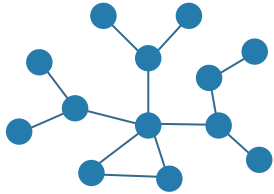**Key Gene Selection Algorithm**
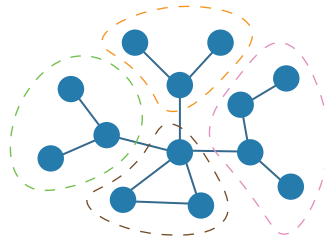
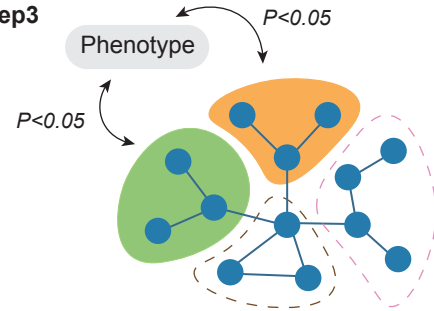**Step1**

Network Construction
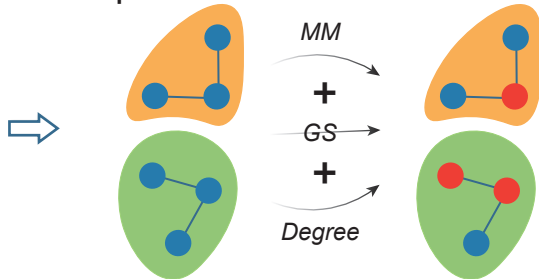
Step2

Gene Clustering
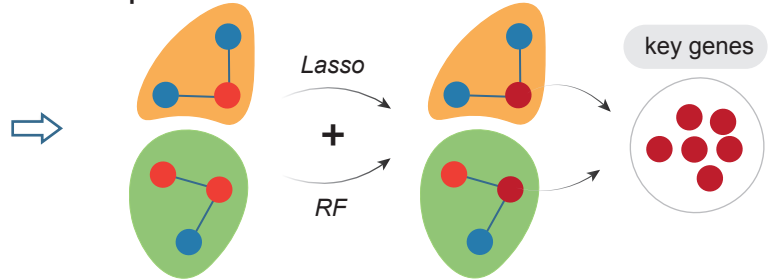
Step3

Phenotype

$P<0.05$

$P<0.05$

Key Modules identification

Step4

MM
+
GS
+
Degree

Key Genes Screening Based on Network Parameters

Step5

Lasso
+
RF

key genes

Key Genes Screening Using Machine Learning Methods