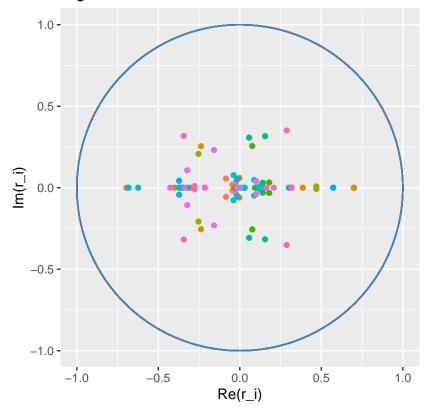
# Random Matrix Analysis

### Ali Taqi

#### **Stochastic Matrices**

```
set.seed(23)
P <- RM_stoch(M, sparsity = T)
if(bool_plot){eigen_plot(P, loud = bool_loud, "Stochastic")}</pre>
```

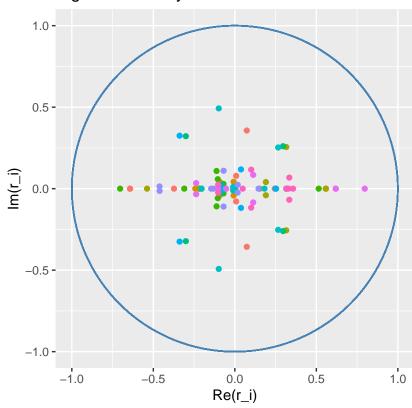
### Eigenvectors: Stochastic Matrix



### Symmetric Stochastic Matrices

```
set.seed(23)
P <- RM_stoch(M, symm = T)
if(bool_plot){eigen_plot(P, loud = bool_loud, "Symmetric Stochastic")}</pre>
```

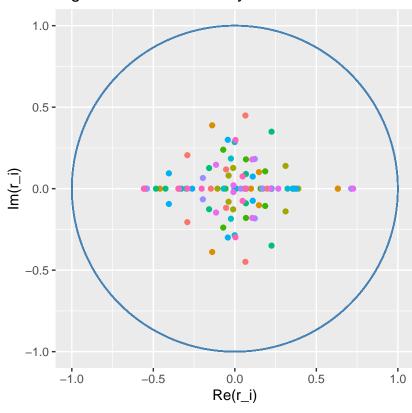
## Eigenvectors: Symmetric Stochastic Matrix



### Normal Symmetric Matrices

```
set.seed(23)
P <- RM_normal(M, normal_args = c(0,1), symm = T)
if(bool_plot){eigen_plot(P, loud = bool_loud, "Normal Symmetric")}</pre>
```

## Eigenvectors: Normal Symmetric Matrix



### Tridiagonal Matrices

```
set.seed(23)
P <- RM_trid(M)
if(bool_plot){eigen_plot(P, loud = bool_loud, "Tridiagonal")}</pre>
```

## Eigenvectors: Tridiagonal Matrix

