

# Principal Components Analysis

## Lecture 03

### I. Objectives

At the end of this series of lectures you should be able to:

- A. Define terms.
- B. Understand the basics of ordination.
- C. Describe PCA.
- D. Describe the use and limitations of PCA.
- E. Explain the assumptions of PCA.
- F. Interpret the results of PCA.
- G. Perform PCA using R

### II. Key Concepts and Terms

Arch effect	Loadings
CCA	MDS
Classification	Multicollinearity
DCA	Multivariate normality
Detrending	NMDS
Dimensionality	Oblique
Direct gradient analysis	Ordination
Eigenanalysis	Orthogonal
Eigenvalue	Parsimony
Eigenvector	PCA
Exploratory analysis	Quartimax
Factor Analysis	Rotation
Factors	Scree plot/test
Horseshoe effect	Simple structure
Indirect gradient analysis	Varimax
Kaiser's stopping rule	Z-Score standardization