

# Statistical Computing: Assignment 1

Investigating Globular Clusters and Galaxies

*Louwrens Labuschagne - LBSLOU003*

*03 March 2017*

## Introduction

### Background

The catalog we will be investigating (W. E. Harris, Harris, and Alessi (2013b)) is based on a literature survey to the end of 2012 and consists of 422 galaxies with published measurements of their globular cluster (GC) populations. The galaxy morphological classification of these consist of 248 E galaxies, 93 S0 galaxies, and 81 spirals or irregulars. (W. E. Harris, Harris, and Alessi 2013a) To gain some insight into these morphological classification types we take a look at how the types look in Figure , <https://en.wikipedia.org/wiki/User:Cosmo0> (2007).

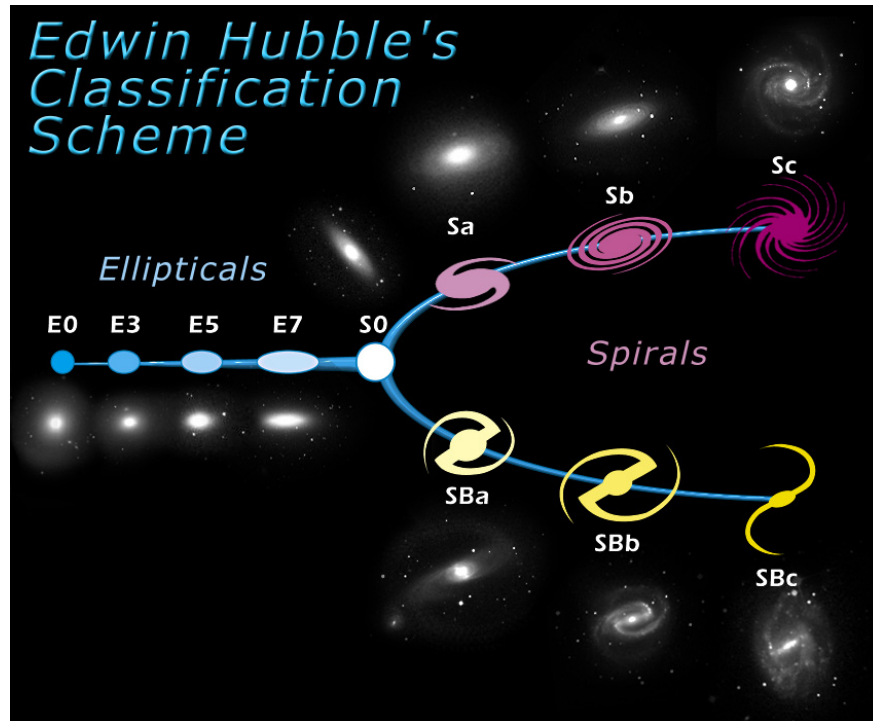


Figure 1: Galaxy Morphological Classification a.k.a. Hubble Tuning Fork

## Data Gathering And Cleaning

### Analysis

central black hole mass

dynamical bulge mass

bulge velocity dispersion

absolute visual magnitude and type of galaxy

### Conclusions

### References

Harris, William E., Gretchen L. H. Harris, and Matthew Alessi. 2013a. "A Catalog of Globular Cluster Systems: WHAT Determines the Size of a Galaxy'S Globular Cluster Population?" *The Astrophysical Journal* 772 (2): 82. doi:10.1088/0004-637x/772/2/82.

———. 2013b. "Catalog of Globular Cluster Systems in Galaxies." [http://www.physics.mcmaster.ca/~harris/GCS\\_table.txt](http://www.physics.mcmaster.ca/~harris/GCS_table.txt).

<https://en.wikipedia.org/wiki/User:Cosmo0>. 2007. "Tuning-fork style diagram of the Hubble sequence." <https://commons.wikimedia.org/wiki/File%3AHubbleTuningFork.jpg>.