

# Protocol for reformatting ImageJ output in R

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## Download Rstudio

Download Rstudio for free here: <https://www.rstudio.com/products/rstudio/>

Basic R script for reformatting (*Reformat.row.to.column.R*) available for download here: <https://doi.org/10.5281/zenodo.5595203>

## Extracting summary statistics of channels for each color space using a macro

This R script (*Reformat.row.to.column.R*) automates the reformatting of summary statistics from component channels of three colorspaces (RGB, Lab, and HSB) included in the output file "*Whole\_Color\_Measurements.csv*" from ImageJ macro "*Whole Color Macro\_All.components.ijm*". This script functions to reformat the "*Whole\_Color\_Measurements.csv*" so each channel is transposed into a separate column rather than a row for each image. The final .csv file produced by running this code should have each image as a row, with each summary statistic (mean, mode, min, max, etc.) for each channel in each colorspace presented in a separate column for that image (row).

1. Open the script "*Reformat.row.to.column.R*" in Rstudio.
2. Set the working directory for where your file "*Whole\_Color\_Measurements.csv*" is saved at line 8 in the script.

```
setwd("YOUR FILE PATH HERE")
```

3. Script will then run by:
  - a. Importing the "*Whole\_Color\_Measurements.csv*" file into R
  - b. Adding another column to the data indicating what colorspace and channel each row belongs to (RGB\_R, RGB\_G, RGB\_B, LAB\_L, LAB\_A, LAB\_B, HSB\_H, HSB\_S, HSB\_B)
  - c. Clarifying the "image ID" for each image analyzed and amalgamating the data initially presented in individual rows for each colorspace channel based on the same image ID.
  - d. Create a new .csv file titled "*Whole\_Color\_Measurements.reformat.csv*" where each image is presented as its own row, and each summary statistic (mean, mode, min, max, etc.) for each channel in each colorspace is presented as a separate column for that image (row).