



# WORKSHOP

## Kaamos Symposium 2020

Dear participants and attendees,

Thank you for participating in our student organised KAAMOS 2020 Symposium. We would like to thank you for participating at this year's virtual conference hosted through the Zoom platform.

We prepared this document for those who could not attend the workshop but would like to go through the material and data that we worked with.

### Workshop on Friday 11th November 2020

Before the workshop we had a very interesting **talk by Dr. Clemens Küpper** on open access data and the importance of statistics and data for scientific analyses. Since many of you were not able to attend, we have compiled the **main references** that he used for the presentation. We provide them here, since we believe that they are relevant for all scientists:

1. Simmons, J. P., Nelson, L. D. & Simonsohn, U. False-Positive Psychology: Undisclosed Flexibility in Data Collection and Analysis Allows Presenting Anything as Significant. *Psychol Sci* 22, 1359-1366 (2011).
2. Ioannidis, J. P. A. Why Most Published Research Findings Are False. *PLOS Medicine* 2, e124 (2005).
3. Baker, M. Is there a reproducibility crisis? A Nature survey lifts the lid on how researchers view the 'crisis rocking science and what they think will help. *Nature* 533, 452-455 (2016).
4. Forstmeier, W., Wagenmakers, E. & Parker, T. H. Detecting and avoiding likely false-positive findings – a practical guide. *Biological Reviews* 92, 1941-1968 (2017).
5. van Dijk, D., Manor, O. & Carey, L. B. Publication metrics and success on the academic job market. *Current Biology* 24, R516-R517 (2014).
6. Silberzahn, R. et al. Many Analysts, One Data Set: Making Transparent How Variations in Analytic Choices Affect Results. *Advances in Methods and Practices in Psychological Science* 1, 337-356 (2018).
7. Simonsohn, U., Simmons, J. P. & Nelson, L. D. Specification curve analysis. *Nature Human Behaviour* 4, 1208-1214 (2020).
8. Jung, K., Shavitt, S., Viswanathan, M. & Hilbe, J. M. Female hurricanes are deadlier than male hurricanes. *PNAS* 111, 8782-8787 (2014).



# WORKSHOP

## Kaamos Symposium 2020

A **solid background in R programming is required** in order to be able to keep track of the activities and tasks.

You will need to **install the following R packages** to carry out the tutorial. Make sure that you have the **latest version of R** installed, otherwise some packages might not work correctly. You will get an error if that is the case, remember to check your R version and do all necessary updates.

During the workshop we also discussed some interesting links regarding colour palettes in R. Here are some useful links on the topic:

1. <https://github.com/eliocamp/ggnewscale>
2. <http://www.stat.columbia.edu/~tzheng/files/Rcolor.pdf>
3. <https://gka.github.io/chroma.js/>
4. <https://www.anothermag.com/art-photography/3586/wes-andersons-colour-palettes>

If you are interested in learning about Plover Science in Mexico, check out this video:

- <https://youtu.be/h4OxHZXADA8>

Here are some instructions and a small introduction by **Dr. Luke Eberhart-Phillips**:

The workshop showcases the rationale for making our longitudinal snowy plover data open and bring you into R for a simple tutorial on how to wrangle the database and swiftly conduct your own analyses and investigations. As an example, we will be conducting a simple analysis of sex-specific ontogeny.

You may find our peer-reviewed open-access article introducing the database [here](#).

You may find the OSF repository of the database [here](#).

And you may find the GitHub repository of the database [here](#) – which we will be utilizing for the purposes of the workshop.

Please come to the workshop with the following packages pre-installed in R latest version (i.e., simply copy-and-paste these three lines into R):

```
install.packages(c("RSQLite", "dplyr", "dbplyr", "tidyverse", "knitr", "stringr", "sp",  
"rgdal", "mapview", "RColorBrewer", "webshot", "leaflet", "ggplot2", "kableExtra",  
"plotly", "bamlss", "gridExtra"))
```

We will be conducting the tutorial in RStudio (downloadable for free [here](#)). If you prefer to use other software for utilizing R, no worries, but we can't promise that it will be fully compatible with what we aim to show.