Preparations for ISEM 2023 Ecological Network Analysis Tutorial

Dear Participant,

We are looking forward to meeting you at ISEM 2023! Thank you for enrolling in the Ecological Network Analysis Tutorial.

Our time together will be short. To ensure that you and the other participants get as much out of this tutorial as possible, there are a number of things you should (please) do to prepare for our meeting.

1. Install R onto the laptop you will use for the tutorial.

    a. WINDOWS --- Please make sure that you have a working version of R on your computer (https://cran.r-project.org). The most recent one should work.

    b. MAC OSX --- Please download and install the most appropriate version of R for your operating systems from the Comprehensive R Archival Network (https://cran.r-project.org). The most recent one should work.

    c. We will not have time to teach how to program in R. If you are new to using R, I recommend working through this excellent "Introduction to R for Ecological Modelling" initially written by Stephen Ellner and modified by Ben Bolker.

2. Install the enaR package by (1) opening R and (2) copying and pasting the following code (between the # -----) into the R command window (at the blinking cursor)[1]. You will be installing the enaR package from the GitHub repository.

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[1] This code should work on a Windows or Apple computer. If you are running Ubuntu, please see the instructions at: https://github.com/SEELab/enaR/wiki/Installing-the-Development-version-of-enaR. Also note that in R, any text to the left of a # sign is not executed – it's a comment.

a. Copy/Paste the following
```
# ----------------------------------
install.packages("devtools")  # install the devtools R package
library(devtools)  # load the devtools package
install_github("SEELab/enaR", ref = "develop")  # install new enaR
# --------------------------------------
```

b. Verify that the software is installed correctly by copying and pasting the following into the command line
```
# -----
 library(enaR)    # load the enaR library²
 help("enaFlow")  # this should open the help file
 # -------
```

c. If you are new to installing R packages, you might find this article helpful: https://www.r-bloggers.com/installing-r-packages/

3. Read background reading (posted on tutorial website at http://people.uncw.edu/borretts/ENA_isem2023.html).

a. Borrett, SR, Christian, RR, and Ulanowicz RE. 2012. *Network Ecology (Revised)*. In: El-Shaarawi, AH and Piegorsch, WH (Eds.). Encyclopedia of Environmetrics (2nd edition). John Wiley and Sons: Chinchester, pp. 1767-1772.
b. Borrett, SR and Lau, MK. 2014. enaR: An R package for Ecosystem Network Analysis. Methods in Ecology and Evolution 5:1206–1213.
c. Borrett, SR. Introduction to Networks & Network Ecology, Lecture Notes, ENA Tutorial, International Society for Ecological Modelling 2016.

If you have additional time, you might want to browse through the enaR Vignette, which is meant to serve as a guide to using the R package.

Respectfully,

Stuart Borrett and Brian Fath

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² You will see some information printed to the screen and likely a warning.