EPA COURSE TITLE	**Useful and free open science tools to do research in psychiatry**
COURSE DIRECTOR	**Thomas Gargot, France**
COURSE CO-DIRECTORS	N/A
COURSE LEVEL	Basic
EDUCATIONAL INTENTIONS/ COURSE OUTCOMES	- To understand the different steps of scientific method. - To be aware of the transparency and reproducibility problem of research. - To have a glimpse of different open science tools used in different steps of research.
COURSE DESCRIPTION	The methodology of scientific method can be sometimes difficult to understand and implement in psychiatry. Different tools exist to help this process but they can sometimes be quite expensive. Here we will present free, open source software that help to randomize, collect, interpret and publish data. These tools can be easily reused and shared. That could improve validity and reproducibility of scientific research. In order to be interactive, we will involve the participants in the collection of the data of a prototypical scientific study, an international cake testing database! (https://thecakereportblog.wordpress.com/) We will see a study protocol and how we can register this protocol defining the primary outcome. Here what is the best cookie from 2 different brands? We will discuss the issue of sample selection. Who will taste the cookies? Randomizer.org will help us to attribute a condition (cookie A or B) to each subject. LimeSurvey helps to run easy online surveys. What did you think about each characteristic of your cookie? R helps to analyse and plot the data. What the mean score? How to plot the results? Is the difference significant? GitHub helps to publish publicly or not our data and analysis script. Open Science Framework helps with the coordination of these tools. ArXiv systems help to publish early works and manuscripts before publication. Equatornetwork.org can give guidelines that could help to write scientific articles. We can promote our work then on Wikipedia. What are the advantages and issues to promote your own work on Wikipedia?
PREREQUISITE KNOWLEDGE	- Have interest in research in psychiatry. - Have an interest for new technologies. - Like cookies for the data collection test! - Have preferably access to a laptop computer during the session
COURSE METHODS AND MATERIAL	Small group discussions - Role play
TARGET AUDIENCE	Trainees
RECOMMENDED READINGS	http://hackyourphd.org/ https://www.coursera.org/specializations/jhu-data-science/
LANGUAGE(S)	English, French