

# Workshop on Emacs, Org-Mode, and Reproducible Research

## Workshop description

Reproducible research is the idea that data analyses, and more generally, scientific claims, are published with their data and software code so that others may verify the findings and build upon them.<sup>1</sup> Reproducible research consists of a workflow that incorporates narrative description, mathematical proof, code development, result display in either tables or graphs, and bibliography management. Handy tools can make implementing reproducible research easier. Among many good alternatives, such as R Markdown and knitr that are included in RStudio and IPython Notebook, this workshop introduces Emacs and its org-mode.

Emacs is a text editor whose functions are extensible through its contributed packages, among which the org-mode is one of the most widely used. Within the org-mode, we can write structured text, write mathematical equations as in L<sup>A</sup>T<sub>E</sub>X, and execute codes in R, Python and other programming languages, from which the results are dynamically embedded in the file in tables and graphs. The org-mode file can be easily exported to either a PDF or HTML file, in which section numbers, cross-references, mathematics, tables, and graphs are properly inserted. With the help of other modes in Emacs, we can use the org-mode as bibliography management, task management, daily planner, and a list goes on.

This workshop is to share my experience of using org-mode to take notes, write papers, and manage my daily work through the perspective of reproducible research. I hope that audiences will start to use Emacs and org-mode after attending this workshop, and explore their plentiful and powerful functions by continuously playing with them every day.

## Instructor: Zheng Tian

Zheng Tian is Assistant Professor at International School of Economics and Business, Capital University of Economics and Business, Beijing, China. He is currently visiting the Regional Research Institute where he was a former research assistant from 2009 to 2014.

## Time and Location

February 9th, Time TBA, at Regional Research Institute.

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<sup>1</sup>This definition is from <https://www.coursera.org/learn/reproducible-research>.