Standard Operating Procedure for Writing the 10 Simple Rule Article

The **aim of this document** is to help the authors contribute efficiently, have a clear idea about their roles and objectives by enabling clear communication.

Purpose

Our data-rich scientific era demands a new kind of collaboration. We outline emerging effective practices to approach, establish, and sustain productive collaborations between data science and domain sciences in an article with 10 simple rules.

As the impact of our work:

- Collaborations between data science and domain sciences occur with velocity and effectiveness.
- Data collection, curation, analysis, and scientific findings are shareable, reproducible, and sustainable.
- New opportunities for scientific growth are facilitated.

Outcome

A published article in <u>Plos One</u> in their 10 Simple Rules Series on "Ten Simple Rules of DS+X Collaboration."

These rules are:

- specific to DS/X collaborations --- not generic transdisciplinary collaboration
- targeted for people doing the collaboration --- not platforms, infrastructure, funding agency, etc.
- actionable ---things one can read and easily implement

Each rule should include:

- Why should we care? what will we see if this is working? what will see if this is not working?
- how do we know this might work? [evidence beyond our "expert opinion": argument? Citing other works? Refer to to "co-author experiences"]
- Data science "pointers" [name existing technology, community, infrastructure, etc AND their function (because names will change!)]
- what individuals can do? what teams can do? [what is the a baby step?]

Process

The **authors** are the participants of the <u>2019 Lemon Lab workshop</u>.

The **10- simple- rule article** is initially <u>written over Google Doc</u>. After a nearly final version is ready, it will be moved to Overleaf. It is organized around three themes, each of which will be developed by a working group. Each working group will have 3 rules.

Working group 1: Communication & Collaboration (C):

- Initiating collaboration
- Defining goals
- Creating a common language

Working group 2: Data Management (D):

- Data storage
- Data sharing
- Reproducibility

Working group 3: Workflow (W):

- Sustainability of collaboration
- Longevity of project
- Scaling

The "10th rule" focuses on removing the barriers one might face applying the other 9 rules.

Roles and Responsibilities

Authors

All participants of the Lemon Labs workshop contributed significantly to the development of the building ideas of the article and will be listed as an author --- regardless of their active participation in writing the paper. See PLOS authorship guidelines and CRediT taxonomy https://journals.plos.org/plosone/s/authorship that will be used to identify contributions.

Active Writers

Participants who actively write the 10-simple-rule article. Responsibilities include writing and revising within their own working group and commenting on the article as a whole.

Working Group Leaders (WGL)

Designated leaders of each working group. They are responsible for their section being completed and communicating with members of their group to complete the section. They are the main point of contact (see below) for active writers in each working group.

Working group leaders will communicate with their team via slack and email.

Communication & Collaboration (C): Marina Kisley <marinaki@email.arizona.edu>
Data Management (D): Meghan Balk <meghan.balk@gmail.com>

Workflow (W): Mona Papes <mpapes @utk.edu>

Lead Contact

Faryad Sahneh < faryad@email.arizona.edu > will work closely with working group leaders and is responsible for delivering the objectives of the paper.

Project Pls

The PIs are responsible for fulfilling the grand objective of <u>TRIPODS+X project</u> (TRIPODS+X:VIS: Data Science Pathways for a Vibrant TRIPODS Commons at Scale).

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Communications

- Slack is the main medium for personal and group level communications
- Faryad will send updates to all authors via email every 2 weeks (please avoid Reply All)
- Working group leaders will send weekly updates to Faryad
- Faryad will send milestone (see below) updates via #general on slack

Google Drive <u>Public</u> folders include all the documents during the workshop as well as the article and extra notes.