Framework for
Open and
Reproducible
Research Training

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Edinburgh Open Research Conference

Virtual | 27 May 2022

Introducing a Framework for Open and Reproducible Research Training (FORRT)

with *Flavio Azevedo*

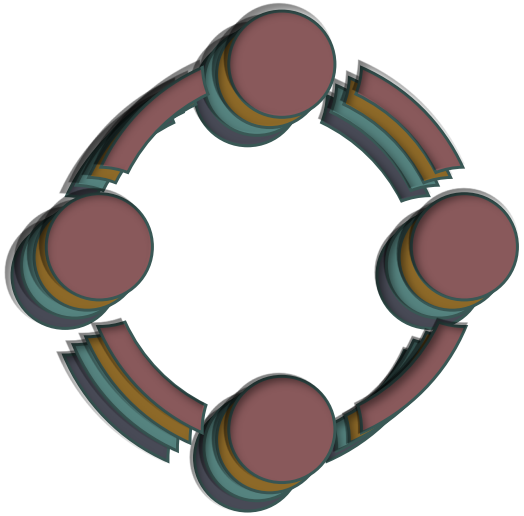
Introduction

The Problem

*The **teaching and mentoring** open scholarship practices*
*—but also, the **transmission** from scholars to scholars—*
*has **received** considerably **less attention**.*

As a result, it is still very common that graduates and undergraduates
finish their studies without having heard about
Open scholarship.
Also, there were few learning 'out-of-the-box' opportunities to scholars

Scientific Utopia



Open Scientific Communication

Crowdsourced Science

Re-structured Incentives

Integrating Open Scholarship into Higher-ED

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What is FORRT?

- Established in mid 2018 by PhD students
- Composed mainly of early career scholars: **+350** scholars & educators
- Representing fields such as *Psychology, Neuroscience, Communication science, Linguistics, Economics, Medicine, Mathematics, Computer science, Philosophy, Political science,* etc.
- Volunteer-based organization.
- Over 100 visits a day across the world

What are FORRT goals?

1. Build together with educators a pathway towards the ***incremental adoption of open scholarship practices into higher education***
2. Generate a conversation about the ***ethics and social impact of a higher-education pedagogy*** that emphasizes openness, epistemic uncertainty and research credibility
3. Promote a reflection about the ***perceived importance of different academic activities*** and ***advocate for greater recognition of educational resources***

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What has FORRT accomplished?

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FORRT's Glossary

- *Devised to be an **access point** for those wishing to learn about OS*
- *Aims to provide **concise definitions** of the most important OS terms and clarify terminologies*
- ***110 contributors** from the academic community have defined more than **250 open scholarship terms***
- *Each term is presented together with a brief definition and appropriate references. Whenever is the case, we also present potentially competing definitions for a term.*

https://forrt.org/glossary/

Parsons et al. (2022). *In press.*

List of terms

CARKing

Last updated on Jul 14, 2021

Definition: Critiquing After the Results are Known (CARKing) refers to presenting a criticism of a design as one that you would have made in advance of the results being known. It usually forms a reaction or criticism to unwelcome or unfavourable results, results whether the critic is conscious of this fact or not.

Related terms: HARKing, Preregistration, Registered Report

References: Bardsley (2018), & Nosek and Lakens (2014)

Drafted and Reviewed by: Mahmoud Elsherif, Ali H. Al-Hoorie, Ashley Blake, Adrien Fillon, Charlotte R. Pennington

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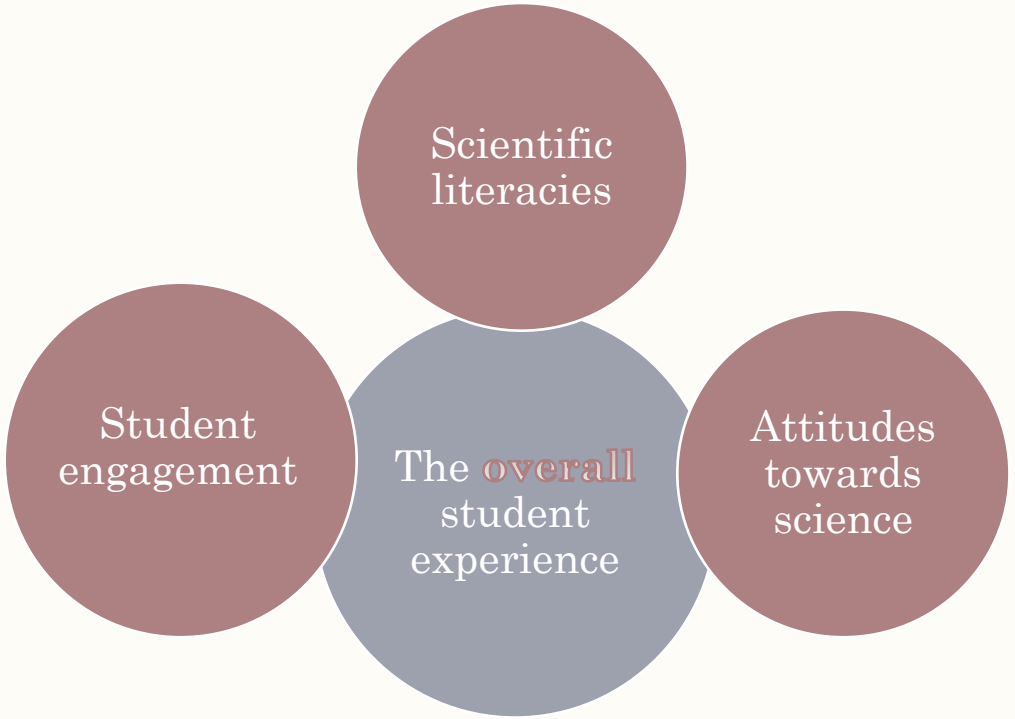
FORRT's Impact on students



forrt.org/impact
osf.io/th254

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FORRT's Lesson Plans

- *Devised to **support** educators who wish to integrate OS into their teaching*
- *Draws on the expertise of the community of researchers and educators*
- ***9** evidence-based, high-quality **lesson plans** and almost **60 class activities** that can be incorporated into taught courses*
- *Each lesson plan was **categorized** based on theme, learning outcome, activity length and method of delivery*

https://forrt.org/lesson-plans/

Pownall et al. (2021). *Scholarship of Teaching and Learning in Psychology*.

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Neurodiversity Project

- *Neurodiversity is the non-pathological variation in the human brain regarding sociability, learning, attention, mood and other mental functions (Singer, 2017).*

- *Team Aims to **raise awareness to diversity** in academia, **build community, empower under-represented scholars,** and **increase the visibility** of the work produced by neurodivergent scholars and educators.*

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FORRT's Summaries

- ***Reduce the burden*** *on educators wishing to get familiar and stay up-to-date with the OS literature*
- *Over* ***200 summaries*** *of academic articles related to OS*
- *Main* ***take-aways*** *and* ***suggestions*** *of articles on similar topics*
- *Peer-review process*

https://forrt.org/summaries/

Kalandadze et al. (2021). In preparation

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FORRT's Reversals & Replications

- *Replications of previous work are at the core of Open Scholarship*
- *It can be challenging to keep up to date with replication efforts*
- ***Collate** replication efforts and reversals across different fields*
- ***32 contributors** from the academic community, **~150 entries** across **20 different fields***

https://forrt.org/reversals/

Social Psychology

No good evidence for many forms of priming, automatic behavior change from 'related' (often only metaphorically related) stimuli. Semantic priming is still solid, but the effect lasts only seconds.

- **Elderly priming**. Hearing about old age makes people walk slower. The p-curve alone argues against the first 20 years of studies.

  Statistics

  - Status: reversed
  - Original paper: 'Automaticity of social behavior', Bargh (1996); 2 experiments with n=30. [citations = 5938(GS, October 2021)]
  - Critiques: Doyen (2012) [n=120, citations=757(GS, October 2021)], Pashler et al. (2011) [n=66, citations=XX(GS, October 2021)]. Meta-analysis: Lakens (2017) [citations = 21(GS, October 2021)]
  - Original effect size: d=0.82 to d=1.08
  - Replication effect size: Doyen: d= -0.07. Pashler: d= -0.22

- **Distance priming**. Participants primed with distance compared to closeness produced greater enjoyment of media depicting embarrassment (Study 1), less emotional distress from violent media (Study 2), lower estimates of the number of calories in unhealthy food (Study 3), and weaker reports of emotional attachments to family members and hometowns (Study 4).

  Statistics

- **Flag priming**. Participants primed by a flag are more likely to be more in conservative positions than those in the control condition.

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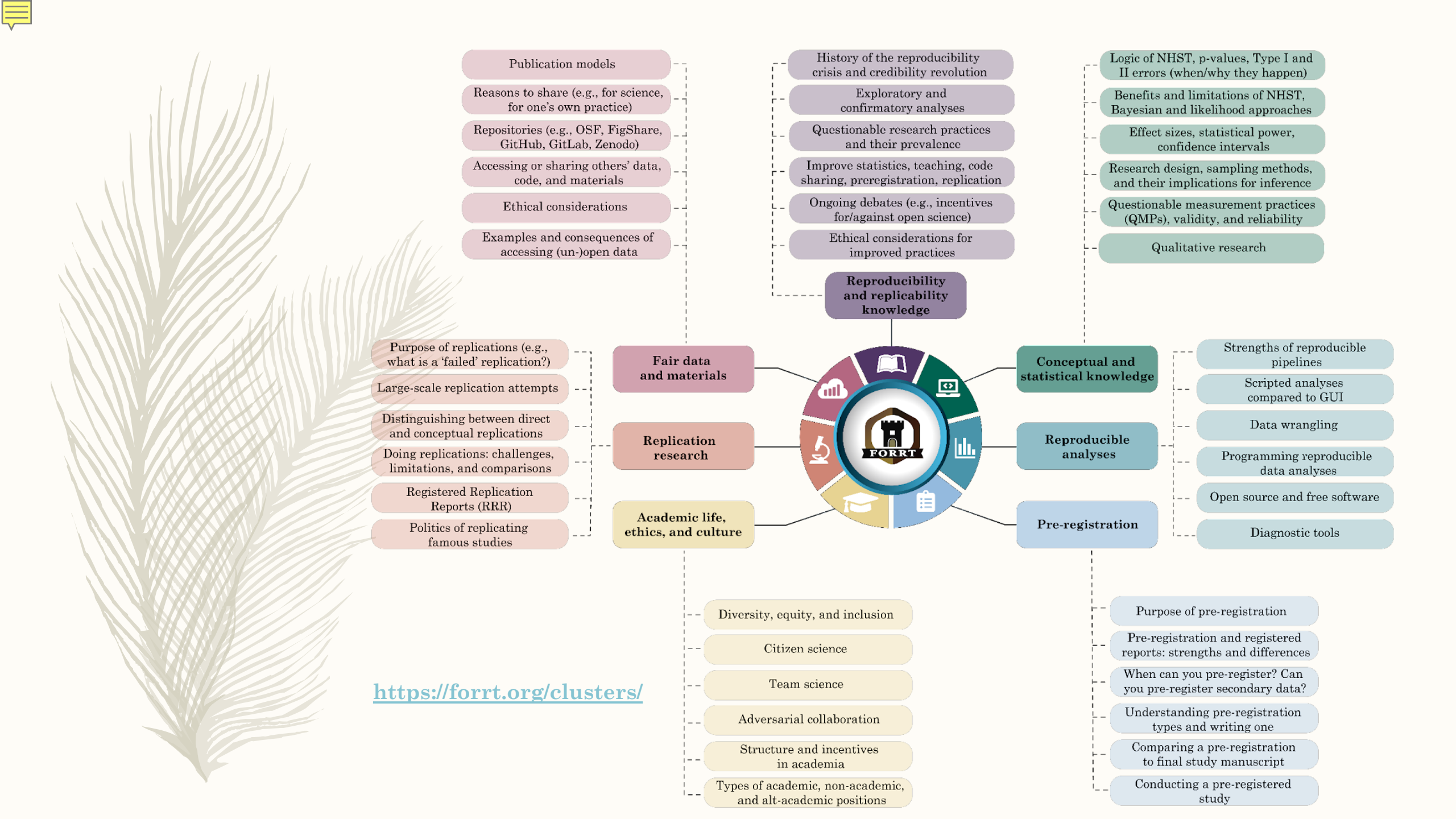
Reversals & Replications

https://forrt.org/reversals/



https://forrt.org/clusters/

Curated resources

There are more than 700 resources submitted so far in our database. We are currently curating a new and improved version that is compliant with OER Commons for greater findability, accessibility, interoperability, and reusability (FAIR) of these resources.

If you notice there is an educational resource, research article or pedagocial tool missing in our database, please consider adding it here on FORRT's resource submission form or via the direct link.

Enter keywords below to find relevant resources for you or use the filters below:

Enter search text

No items found.

All | Reproducible Analyses | Open Data and Materials | Reproducibility and Replicability Knowledge | Replication Research | Conceptual and Statistical Knowledge | Preregistration

HAIL THE IMPOSSIBLE: P-VALUES, EVIDENCE, AND LIKELIHOOD.

Significance testing based on p-values is standard in psychological research and teaching. Typically, research articles and textbooks …

Author(s): Johansson, T.

Type of resources: Primary Source, Reading, Paper

Primary user(s): Student

Subject area(s): Math & Statistics

Tag(s):

Link to resource

1,500 SCIENTISTS LIFT THE LID ON REPRODUCIBILITY

Survey sheds light on the 'crisis' rocking research.

Author(s): Monya Baker

Type of resources: Primary Source, Reading, Paper

Primary user(s): Student

Subject area(s): Applied Science, Social Science

Tag(s): Reproducibility Crisis and Credibility Revolution, Open Science

Link to resource

A 21 WORD SOLUTION.

One year after publishing "False-Positive Psychology," we propose a simple implementation of disclosure that requires but …

Author(s): Simmons, Joseph P. and Nelson, Leif D. and Simonsohn, Uri, A

Type of resources: Primary Source, Reading, Paper

Primary user(s): Student

Subject area(s): Applied Science, Social Science

Tag(s): Reproducibility Crisis and Credibility Revolution, Open Science

Link to resource

https://forrt.org/resources/

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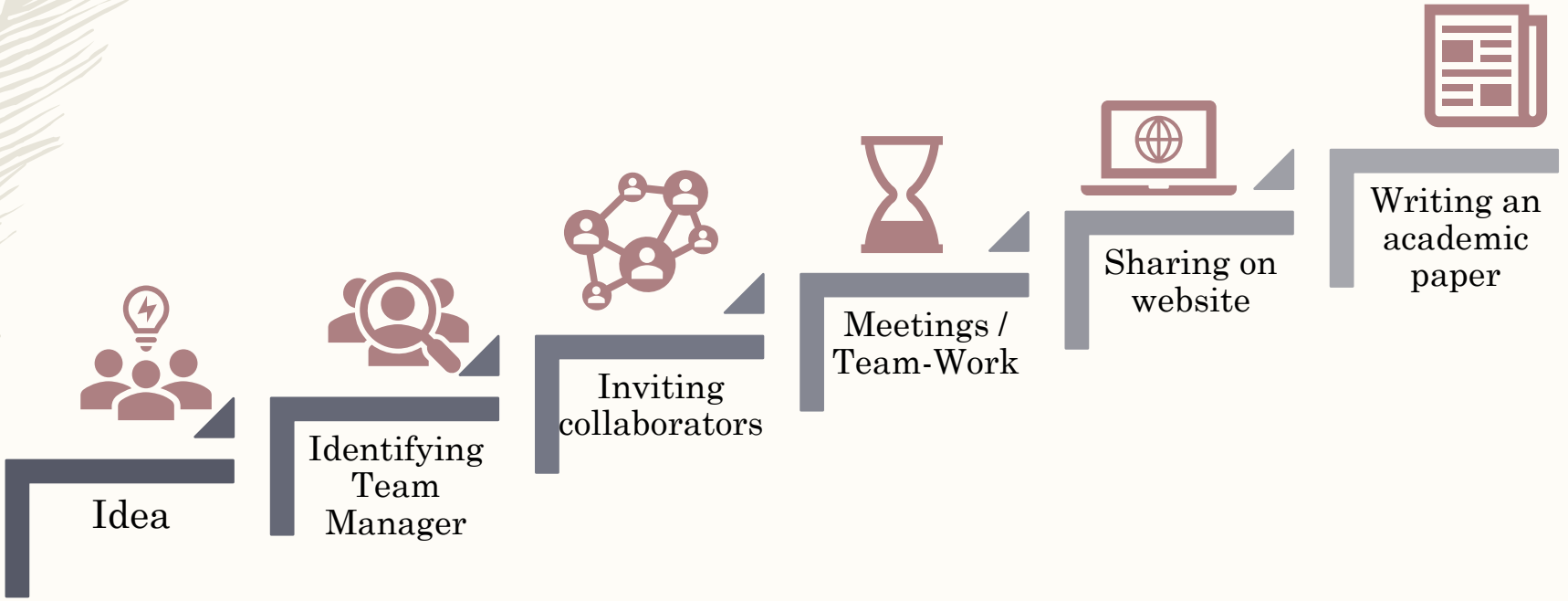
From ideas to reality



Thank you!

https://forrt.org

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https://forrt.org/publications/