

Executable Research Article (ERA): Enrich a research paper with code and data

 **Dr. Emmy Tsang** ¹

¹ eLife, UK

Software

- [SORSE](#) 
- [Event Website](#) 

Category: software-demos

Published: August 18, 2020

License

Authors of papers retain copyright and release the work under a Creative Commons Attribution 4.0 International License ([CC-BY](#)).

Code and data are important research output and integral to a full understanding of research findings and experimental approaches in a paper. However, traditional research articles seldom have these embedded in the manuscript's narrative, but instead, leave them as “supplementary materials”, if they are openly available.

With Executable Research Articles (ERAs, previously known as the Reproducible Document Stack (RDS)), our vision is to enrich the traditional narrative of a research article with code, data and interactive figures that can be executed in the browser, downloaded and explored. It will give readers a direct insight into the methods, algorithms and key data behind the published research.

We published our [first demo ERA](#) in February 2019. Over the past year, we have been working closely with our collaborator Stencila to build an open tool stack that would enable our authors and production team to easily publish ERAs at scale. In this talk, we hope to showcase the potential of ERAs with examples and walk through how authors can enrich their traditional eLife paper using Stencila Hub, through:

- Starting a Stencila Hub project linked to their eLife paper
- Converting the article to a reproducible notebook format of their preference, while preserving the relevant journal article metadata
- Uploading the data required to enable live re-execution of tables and figures in the article
- Replacing static tables and figures with code chunks that reproduce them

We will share our current vision of how ERAs will be integrated into our production workflow and collect feedback. We also hope to engage participants in exploring potential functionalities for the tool stack and building a community-driven roadmap.