

Ethical Open Science RCN 2024 Symposium

RCN Early Career Researchers and EOS Workshop

Guiding premise

Explore and discuss the challenges, and promise, of EOS in Quaternary Sciences from and ECR perspective of engaging FAIR and CARE Principles.

Workshop abstract

ECRs are well known as the arbiters of change in science, such as driving open science initiatives through the development of novel research design, methodologies, and technologies, although they often do so with less time, sociopolitical power, and monetary resources compared to more established or advanced researchers (e.g., tenured) (Allen & Mehler 2019; Pownall et al. 2021). Indeed, as science strives to be more transparent and ethical by adopting Open Science (OS) policies, ECRs are increasingly at the forefront of deciphering and enacting OS policies not as ideals or virtue statements but as forms of practice embedded within all facets of their research — often contending with gaps between policy and practice informed by disciplinary histories of a field, traditions of data management and publication, and academic sociocultural vulnerabilities that may not necessarily be congruent with more recent OS values (Berezko et al. 2021; Gownaris et al. 2022; Sarabiour et al. 2019). Such gaps widen for those also doing transdisciplinary research that includes traversing, and hopefully reconciling, variable OS approaches or standards developed across traditionally siloed (sub)disciplines. To this end, the issues surrounding ECR career advancement in interdisciplinary, collaborative, and open science research is well documented (Hein et al. 2018; Allen & Mehler 2019), with many calls for changes in incentivization and pedagogical reform in the education, mentorship, and evaluation of researchers (Goring et al. 2014; Zečević et al. 2021; Davidson et al. 2013; Toribio-Flórez et al. 2021).

Here, as a group of trans- and multi-disciplinary ECRs working across Quaternary sciences (e.g., paleontology, paleoecology, archaeology, data informatics, and library sciences) and interacting with disparate data traditions and types, we seek to explore both the challenges and promise of ethical OS by identifying points of potential progress towards transforming how we practice interdisciplinary collaborations. More specifically, we do so from the perspective of ethical Quaternary OS as engaged through FAIR Principles (Findable, Accessible, Interoperable, Reuseable) and CARE Principles (Collective Benefit, Authority to Control, Responsibility, Ethics) in tandem. Below are a couple of guiding questions to facilitate discussion.

Guiding questions

- What are some of the analytical challenges for Quaternary science disciplines in OS?
 - E.g., Traditionally siloed disciplines
 - How we discuss time
 - How we contextualize
 - What data and metadata are important
 - How “community” engagement is, or is not, a component.
- What are the challenges when we layer on FAIR and CARE principles?
 - E.g., Some challenges deepen? Some challenges abated?
- What has been done in terms of engaging OS in ECR preparation and subsequent evaluation? What is the relative ‘success’ of approaches?
 - E.g., trainings

- Seen success in co-taught courses (Davidson et al. 2013)
 - Maybe there is a need to take methodology or other courses from other disciplines as part of a degree.
- o E.g., calls for incentive change (has that happened?)
- In what ways have FAIR and/or CARE been engaged in ECR preparation or expectations for OS?
 - o Within your core discipline or disciplines(s) are such principles common and/or valued?
 - o Have they moved from policy and virtue statements to practice and disciplinary accountability?
- What are the barriers or challenges to ethical OS not being discussed or acknowledged enough in terms of ECR-led efforts?
 - o E.g., Time for network building [already mentioned that ECRs have short contracts, and so engaging with or developing relationships with community partners may not be feasible, let alone to apply an OS framework on top (Allen & Mehler 2019)]
 - o E.g., Embed EOS into courses already taught (not a new course, which is work for ECRs)
- What are the promises of approaching ethical Quaternary OS from an interdisciplinary standpoint of collaboration and FAIR and CARE engagement?
- What steps or considerations do we recommend? Think short and long-term? What would help you/us?