ScholarSphere

An open access institutional repository for publications, research data, & creative works

- Self-deposit for PSU faculty, staff, and students at no cost
- Supports data sharing requirements and “F.A.I.R” principles
- Satisfies requirements of PSU Open Access Policy (AC02) and data sharing policies
- Work drafts and versioning
- Flexible access and visibility controls
- Persistent access and preservation of work through DOI minting
- Monthly reports tracking download statistics
- Curation services from PSU Librarians and the Data Curation Network

Scholarly Works

- Unique metadata fields:
  - Publisher's Statement
  - Publisher Identifier
- Features:
  - Autocomplete for records in Penn State Researcher Metadata Database
  - Ability to mint a DOI only for records without a publisher identifier

Data & Code

- Unique metadata fields:
  - Geographic Area
  - Source
  - Semantic Version
- Features:
  - README file required
  - Option to request curation prior to publication
  - Ability to mint a DOI

Doctoral & Masters Culminating Experiences

- Unique metadata fields:
  - Program
  - Degree
  - Sub work type
- Features:
  - Ability to mint a DOI

Research Instruments

- Unique metadata fields:
  - Available & Decommissioned Dates
  - Instrument Type
  - Model
  - Owner
  - Manufacturer
- Features:
  - Ability to mint a DOI

ScholarSphere Policies

- Once a version is published, it can only be modified or deleted by administrators. (You can always create an updated version)
- Deposits larger than 100 GB require approval from repository managers.
- The minimum preservation timeframe is ten years. After that period, the Libraries may remove content that does not warrant continued preservation.
- To improve discoverability and accessibility of deposited content, curators may enhance metadata and make available derivatives of deposited files in open, non-proprietary file formats.

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Important Guidance

1) A “Work” is a bounded set of files, usually related to a single project or study. A “Collection” is a group of thematically related “Works.” For example, you might make two “Works,” one for each of your projects, and place them both in a Collection.

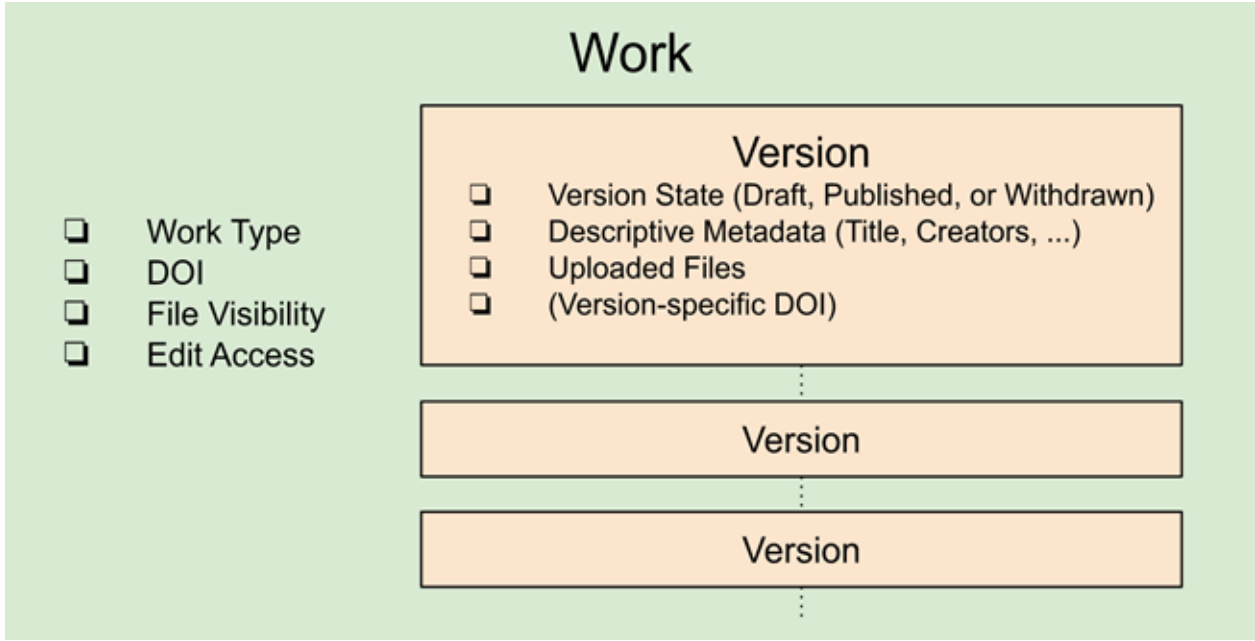
2) The DOI (persistent identifier) is assigned to the “Work” as a whole, which can be a single file or a collection of files.

3) Your can add additional documentation to ScholarSphere work pages by including a README file in your deposit. A README file is valuable for future interpretation of your dataset. For guidance on README files visit: https://github.com/psu-stewardship/scholarsphere/wiki/README-Guide

Drafts & Work Versions

Work Version States

- **Draft**: Files and metadata may be modified by the Work creator or repository administrators only.
- **Published**: files and metadata may be accessed according to the access settings of the Work the Version belongs to. Once published, only admins can delete or withdraw.
- **Withdrawn**: metadata (but not files) may be accessed according to the access settings of the Work the Version belongs to.



https://github.com/psu-stewardship/scholarsphere/wiki/Architecture-Overview

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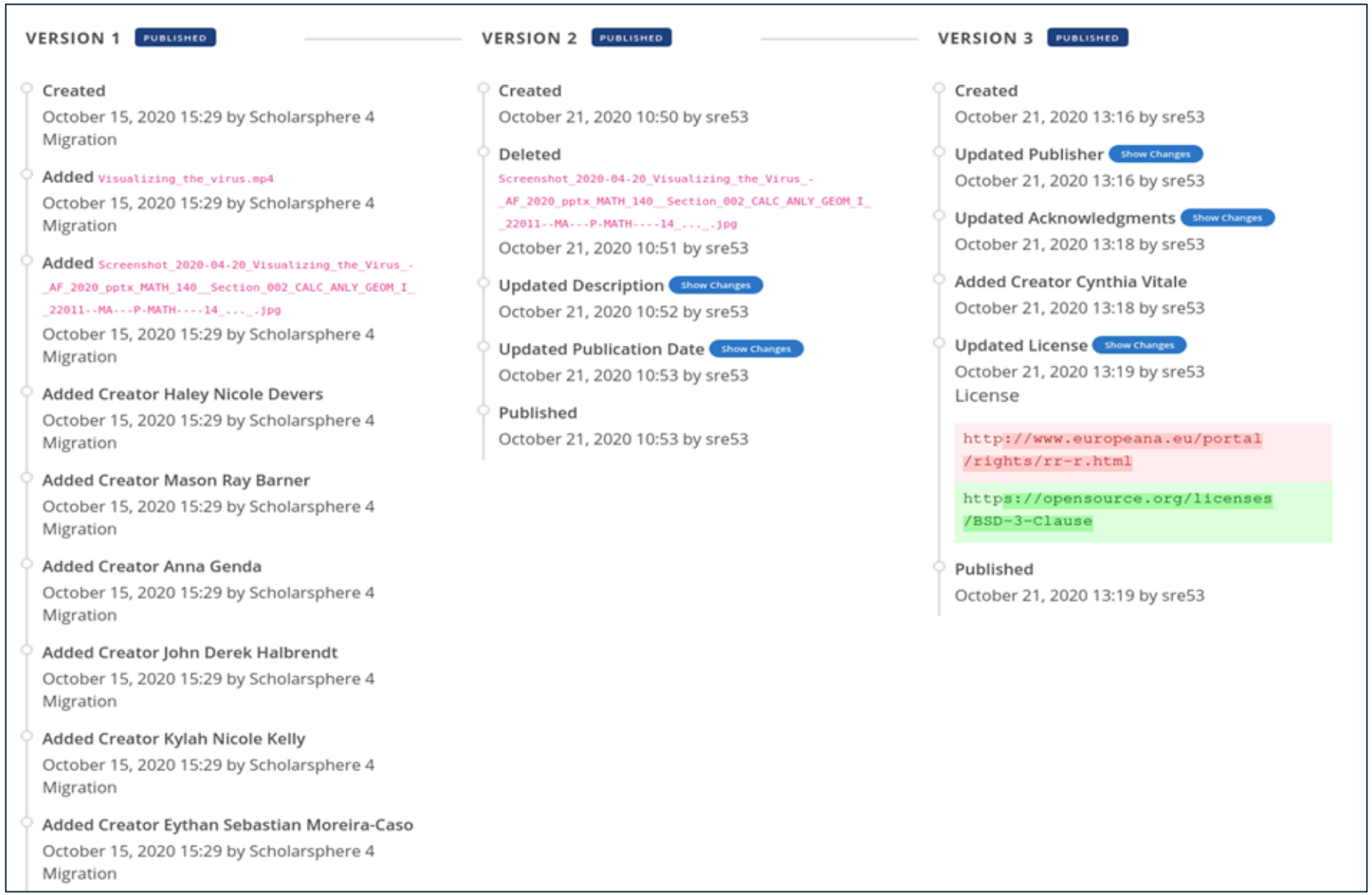

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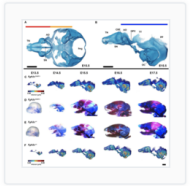
Example ScholarSphere Work



Open Access Data for, "A dysmorphic mouse model reveals developmental interactions of chondrocranium and dermatocranium"

The cranial endo- and dermal skeletons, which comprise the vertebrate skull, evolved independently over 470 million years ago and form separately during embryogenesis. In mammals, much of the cartilaginous chondrocranium is transient, undergoing endochondral ossification or disappearing, so its role in skull morphogenesis is not well studied and it remains an enigmatic structure. We provide complete three-dimensional (3D) reconstructions of the laboratory mouse chondrocranium from embryonic day 13.5 through 17.5 using a novel methodology of uncertainty-guided segmentation of phosphotungstic enhanced 3D microcomputed tomography images with sparse annotation. We evaluate the embryonic mouse chondrocranium and dermatocranium in 3D and delineate the effects of a *Fgfr2* variant on embryonic chondrocranial cartilages and on the association with forming dermal bones using the *Fgfr2cC342Y/+* Crouzon syndrome mouse. We show that the dermatocranium develops outside of and in shapes that conform to the chondrocranium. Results reveal direct effects of the *Fgfr2* variant on embryonic cartilage, on chondrocranium morphology, and on the association between chondrocranium and dermatocranium development. Histologically we observe a trend of relatively more chondrocytes, larger chondrocytes, and/or more matrix in the *Fgfr2cC342Y/+* embryos at all timepoints before the chondrocranium begins to disintegrate at E16.5. The chondrocrania and forming dermatocrania of *Fgfr2cC342Y/+* embryos are relatively large, but a contrasting trend begins at E16.5 and continues into early postnatal (P0 and P2) timepoints, with the skulls of older *Fgfr2cC342Y/+* mice reduced in most dimensions compared to *Fgfr2c+/+* littermates. Our findings have implications for the study and treatment of human craniofacial disease, for understanding the impact of chondrocranial morphology on skull growth, and potentially on the evolution of skull morphology.

FILES

Bone_microCT_docs.zip
size: 41.6 KB | mime_type: application/zip | date: 2022-04-19 | sha256: 3418eca

Bone_microCT_E15.5.zip
size: 12.9 GB | mime_type: application/zip | date: 2022-04-21

Bone_microCT_E16.5.zip
size: 16.2 GB | mime_type: application/zip | date: 2022-04-22

Bone_microCT_E17.5.zip
size: 8.04 GB | mime_type: application/zip | date: 2022-04-21 | sha256: ebc97ec

Bone_microCT_P0.zip
size: 2.69 GB | mime_type: application/zip | date: 2022-04-19 | sha256: 632ebfd

Bone_microCT_P2.zip
size: 5.86 GB | mime_type: application/zip | date: 2022-04-19 | sha256: 4632f32

Bone_volumes.zip
size: 37 KB | mime_type: application/zip | date: 2022-04-19 | sha256: 643f7e7

Crouzon_Fgfr2c_C342Y_chondrocrania.zip
size: 608 MB | mime_type: application/x-zip-compressed | date: 2022-02-10 | sha256: 27825bc

METADATA

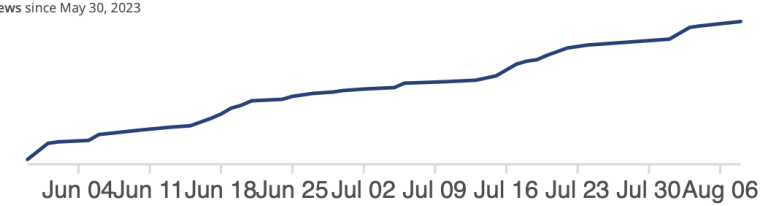
Work Title	Open Access Data for, "A dysmorphic mouse model reveals developmental interactions of chondrocranium and dermatocranium"
Access	OPEN ACCESS
Creators	Susan M. Motch Perrine Mary Kathleen Pitirri Joan Richtsmeier
Keyword	craniofacial development skull embryonic cartilage Crouzon syndrome FGFR fibroblast growth factor
License	CC BY 4.0 (Attribution)
Work Type	Article
Acknowledgments	We would like to thank Dr. Jacob Eswarakumar for the gift of the Fgfr2cC342Y/+ Crouzon mouse model.
Publication Date	November 25, 2021
DOI	doi:10.26207/qgke-r185
Related URLs	https://www.biorxiv.org/content/10.1101/2021.11.24.469914v1 https://www.biorxiv.org/content/10.1101/2021.11.24.469914v2 https://www.frontiersin.org/articles/10.3389/fgene.2022.871927/full https://elifesciences.org/articles/76653
Deposited	February 10, 2022

VERSIONS

V5	PUBLISHED	May 30, 2023
V4	PUBLISHED	May 24, 2022
V3	PUBLISHED	April 22, 2022
V2	PUBLISHED	April 18, 2022

ANALYTICS

99 views since May 30, 2023



COLLECTIONS

Data Curation @ ScholarSphere

- Check that files can open and appear to be working
- Check that discovery metadata is accurate and sufficiently described
- Check that submission is complete and well described
- We may request additional information or supporting documentation to make the data “F.A.I.R”

Might be sent to Data Curation Network
for assistance with curation

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The Researcher is not Passive

(What you choose to do affects what we can do for you)

- Decisions and actions of the **researcher** during data collection & management affect curation and reuse potential.
- Choice of **repository** will affect the life and reuse of your data
- Engagement with a **curator** can help you to navigate choices

DATA CURATION
What are we talking about?

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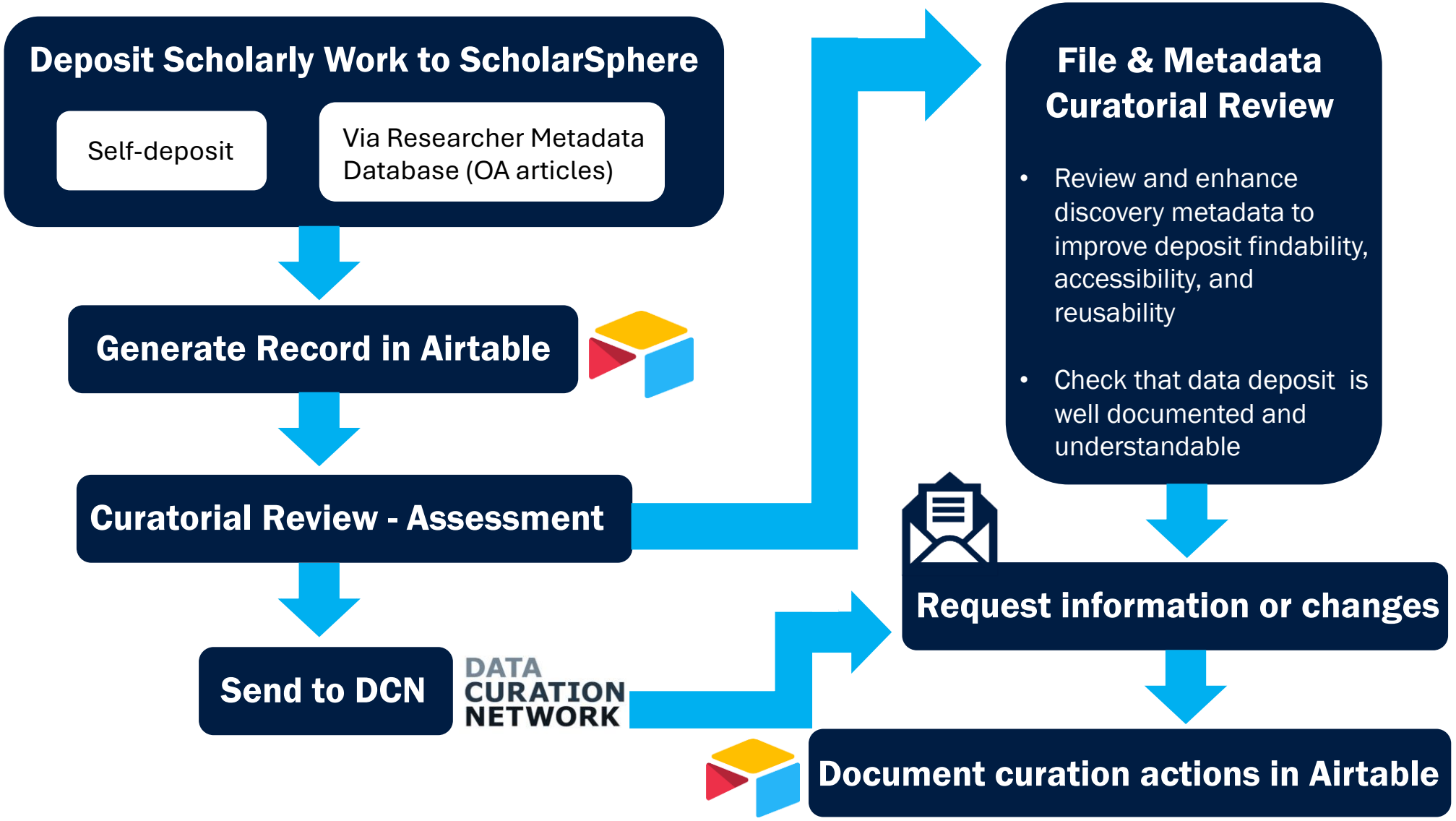
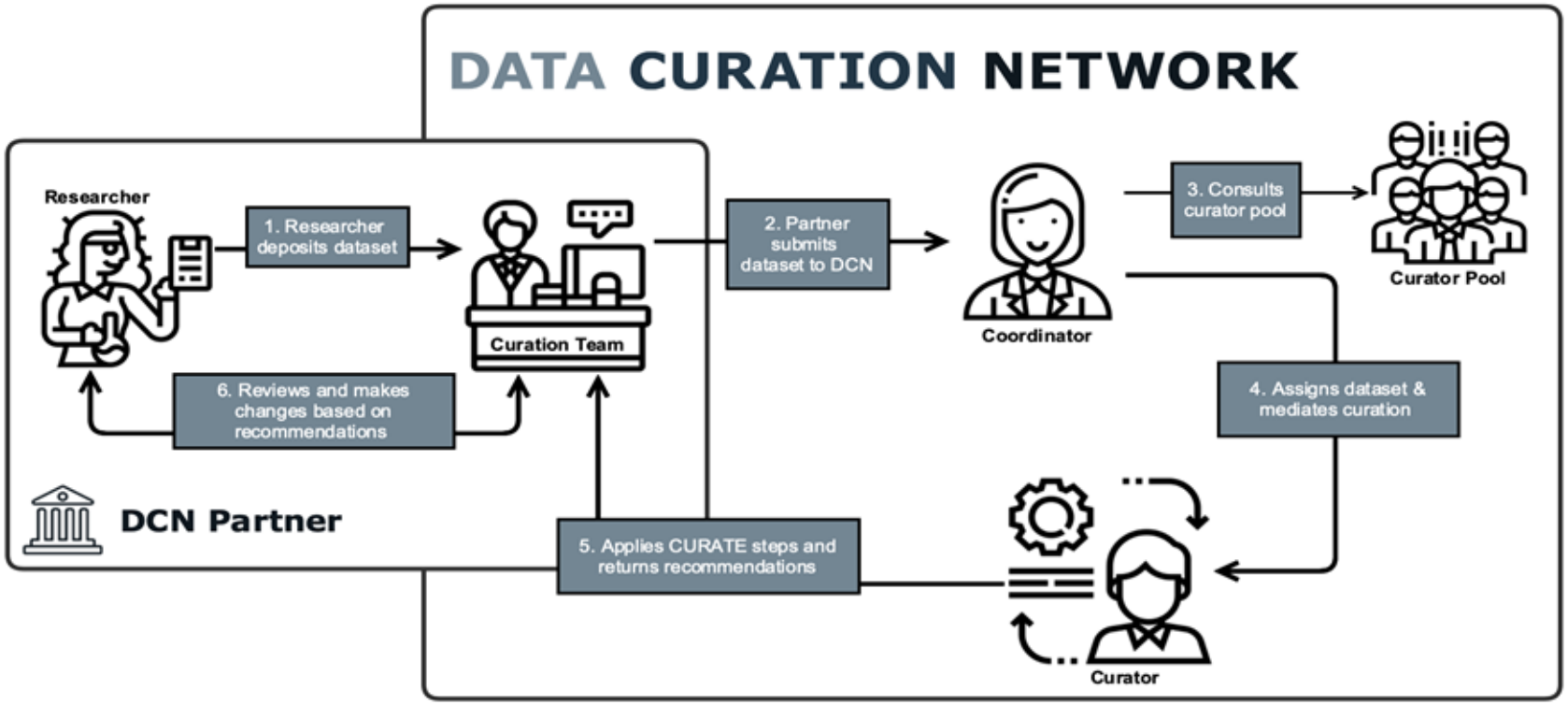
ScholarSphere Curation Workflow



DATA CURATION NETWORK

23 partnered institutions sharing data curation expertise



Data Curation Network. (2020). DCN Curation Workflow. Retrieved from: https://datacurationnetwork.org/resources/workflows/

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PDF Accessibility Workflow