ScholarSphere
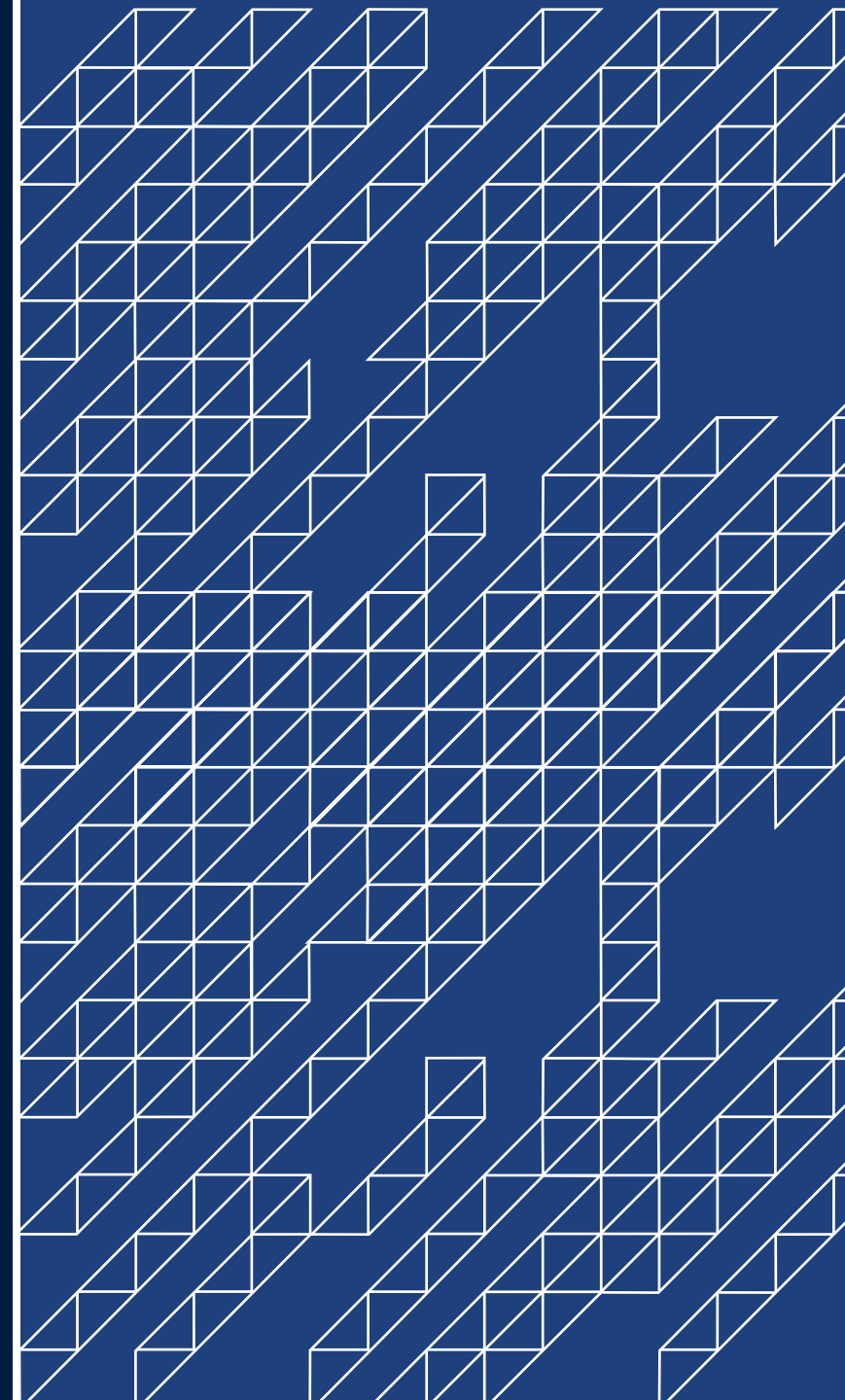
What do repositories offer?

Types of Data Repositories

Disciplinary

Set up to accommodate the data needs of a specific research community

Institutional

Support and promote the research outputs of an institution and set up to accept various data types, formats, and disciplinary focuses.

Generalist

Accept data regardless of type, format, content, or disciplinary focus.

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

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 <u>100 GB</u> require approval from repository managers.

- The minimum preservation timeframe is <u>ten years</u>. 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 <u>derivatives</u> of deposited files in open, non-proprietary file formats.

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

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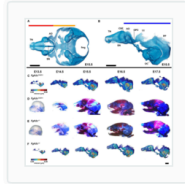
Open Access Data for, "A dysmorphic mouse model reveals developmental interactions of chondrocranium and dermatocranium"

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
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Bone_volumes.zip
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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

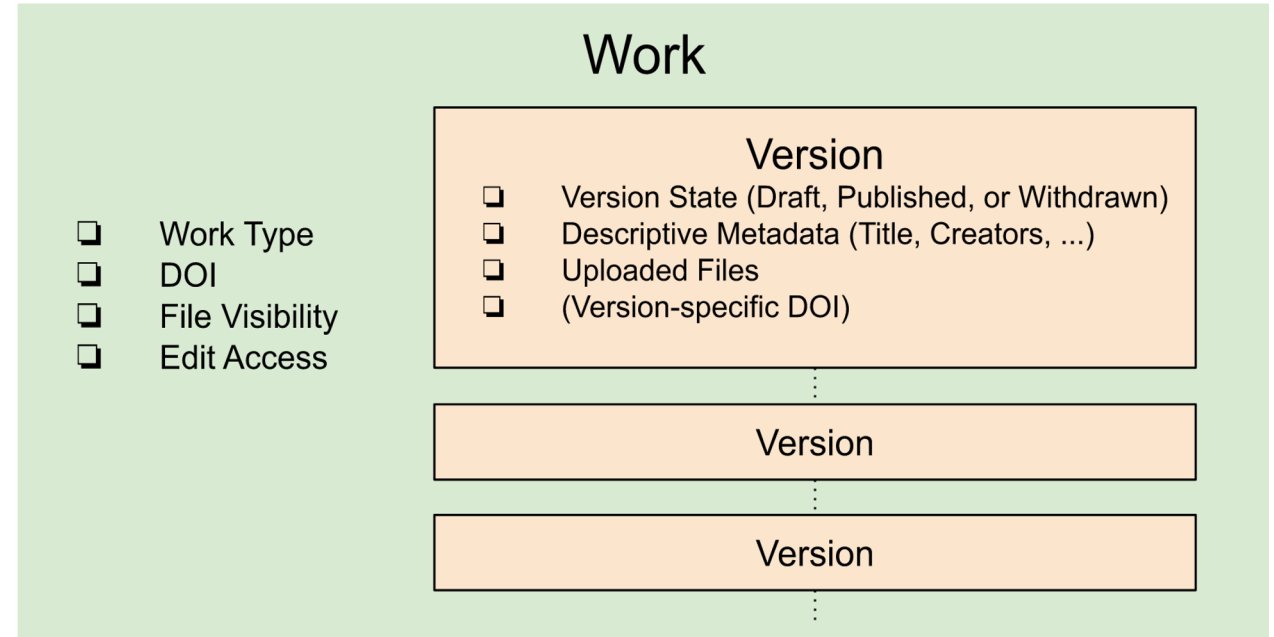Jun 04 Jun 11 Jun 18 Jun 25 Jul 02 Jul 09 Jul 16 Jul 23 Jul 30 Aug 06
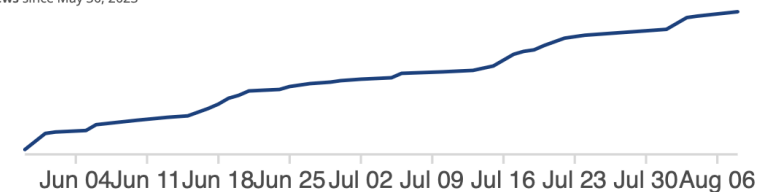
COLLECTIONS

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. <u>Once published, only admins can delete or withdraw.</u>
- **Withdrawn:** metadata (but not files) may be accessed according to the access settings of the Work the Version belongs to.

Work

- Work Type
- DOI
- File Visibility
- Edit Access

Version
- Version State (Draft, Published, or Withdrawn)
- Descriptive Metadata (Title, Creators, ...)
- Uploaded Files
- (Version-specific DOI)

Version

Version

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

Slide created by Seth Erickson

Slide created by Seth Erickson

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 @ ScholarSphere

Meet our curators!

- 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"

Paulina Krys

Briana Wham

Allie Shoffner

Slide created by Hannah Hadley

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

Slide created by Hannah Hadley