

FAIR Facilities and Instruments

A perspective from Arizona State University

September 14, 2023



Matthew Harp
Research Data Initiatives Librarian,
Open Science and Scholarly
Communication

Knowledge and Academic Enterprises

Knowledge Enterprise Research Technology Office

- Research Computing
- Research Data
Management Office
- Core Facilities...

rto.asu.edu

cores.research.asu.edu

ASU Library Researcher Support

- Open Science and
Scholarly
Communication
- STEM
- Social Sciences
- Humanities

lib.asu.edu/research

ASU Researcher Support

1

Get started

These two resources are your starting points for a successful research career at ASU.

2

Identify opportunities

Assisting with funding opportunity searches, locating potential collaborators, and networking with successful researchers and proposal writers.

3

Write your proposal

Helping you craft a strong proposal that leverages university resources.

4

Submit your proposal

Helping you submit a strong proposal compliant with all legal and ethical requirements.

5

Conduct your research

Facilities, tools and resources to help you carry out your sponsored projects

6

Commercialize and share your work

Helping you bring your discoveries and innovations into the marketplace.

i

Additional resources

These resources specialize in areas that may be applicable to your project.

research.asu.edu/researcher-support

ASU Research Tech and Core Facilities



Knowledge Enterprise
Core Facilities



Instrument Design & Fabrication

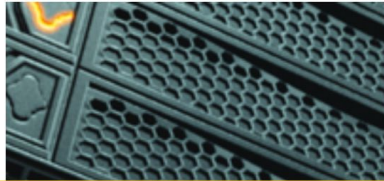
Computing & Data Services

Nanofabrication

Materials

Biosciences

Clinical Research Services



Research Computing



OFFICE OF THE PROVOST

Office of Evaluation &
Educational Effectiveness



Research Data
Management



cores.research.asu.edu/computing-and-data-services

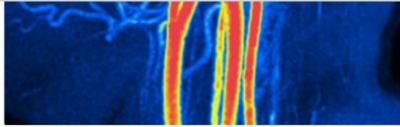
Finding resources



Biosciences

ASU Core Research Facilities

The eleven facilities within the [biosciences core](#) offer services and tools including ASU genomics facility, regenerative med, mass spectrometry facility, preclinical imaging, magnetic resonance research center, flow cytometry facility, advanced light microscopy facility, bioinformatics facility, ultrafast laser facility, DNA shared resource facility, and clinical and translational research recharge center.



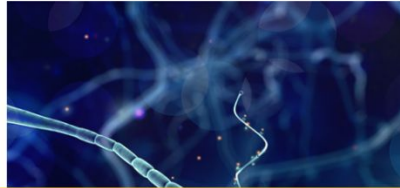
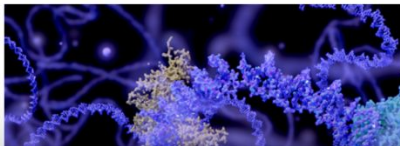
Advanced Light Microscopy Facility



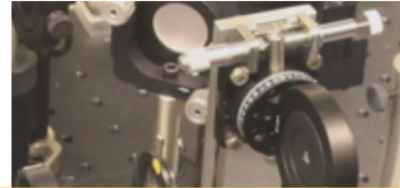
The Advanced Light Microscopy Facility houses state-of-the-art research tools enabling observation of cellular structures and cellular processes in real time. Available imaging modalities include:

[more about](#)

[Advanced Light](#)



Bioinformatics Facility



Ultrafast Laser Facility



Advanced Light Microscopy Facility

[About](#)

[Capabilities](#)

[Equipment](#)

[Rates](#)

[Get started](#)

[Education and outreach](#)

[Research](#)

Equipment

Equipment	Techniques
<u>BIF - Cell culture facility</u>	
<u>BIF - EVOS live cell imaging platform</u>	Live-cell imaging, 3-color imaging, Brightfield, Extended time-lapse
<u>BIF - Nikon AX R laser scanning confocal</u>	Live-cell imaging, Z-stacking, Large image acquisition, Multipoint automated time-lapse, Fluorescence lifetime

Equipment record

Advanced Light Microscopy Facility

About

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News and events

RMBF - Nikon SMZ800 Dissection Microscope with Nanojet III

Location

[LSC – Life Sciences Center C Wing, L2-80A](#)

Description

The Nikon SMZ800 dissection microscope has direct and transmitted illumination. This microscope is commonly used with the Drummond Scientific Nanojet III. The Nanojet III is a microinjection pipet capable of delivering precise nanoliter volumes. Volume selection includes 2.3 to 69 nanoliters in 16 increments.

Techniques

- microinjection
- dissection

Documents and manuals

- [Nanojet_III_Manual_1.pdf](#) 3.65 MB

ASU Unit

Knowledge Enterprise



Location, description, techniques of use, manuals, provider (provenance custodianship and provider), Rates (budgeting and costs),

cores.research.asu.edu/advanced-light-microscopy/equipment/rmbf-nikon-smz800-dissection-microscope-nanojet-iii

Costs information

Rates

Service	ASU rate	Nonprofit/other academic rate	Notes
Unassisted use	\$5/hour	\$10.10/hour	
Technical assistance	\$50/hour	\$62/hour	
Materials: frosted glass slides	\$10/box	\$10/box	Double frosted micro slides used in various microscopy applications. A box includes 72 slides measuring 3" x 1".

cores.research.asu.edu/advanced-light-microscopy/rates

Tombstone records for instruments?

RMBF - Leica SP5 AOBS Spectral Confocal - Unavailable

Service	ASU rate	Nonprofit/other academic rate	Notes
Unassisted use	\$25/hour	\$31.25/hour	
Technical assistance	\$50/hour	\$62.50/hour	

cores.research.asu.edu/advanced-light-microscopy/rates

Library managed repositories

- KEEP scholarship preservation
 - keep.lib.asu.edu
 - hdl.handle.net/2286/
- PRISM digital collections
 - prism.lib.asu.edu
 - hdl.handle.net/2286/
- ASU Research Data Repository
 - dataverse.lib.asu.edu
 - doi.org/10.48349/ASU/

Preservation

The ASU Library aims to provide preservation measures that ensure the authenticity, reliability and integrity of digital materials entrusted to its care by providing usable versions for scholarship, research and instruction.

ASU Library may provide greater preservation support for materials submitted in file formats that are open, well documented and widely adopted.

ASU Library conducts the following preservation activities:

- assigns persistent identifiers
- regular fixity checks
- format review and migration, when necessary
- retention of the original digital asset
- versioning
- secure storage, backup, and migration
- virus monitoring and repair



ASU Library Research Data Repository

(Arizona State University)



26,002 Downloads

[Contact](#) [Share](#)

Share, find and cite research data produced at Arizona State University.

The Arizona State University (ASU) Research Data Repository provides a platform for ASU-affiliated researchers to share, preserve, cite, and make research data accessible and discoverable. The ASU Research Data Repository provides a permanent digital identifier for research data, which complies with data sharing policies. The repository is powered by the Dataverse open-source application, developed and used by Harvard University. Both the ASU Research Data Repository and the [KEEP Institutional Repository](#) are managed by the ASU Library to ensure research produced at Arizona State University is discoverable and accessible to the global community.



Advanced Search

[Dataverses \(21\)](#)

[Datasets \(63\)](#)

[Files \(8,789\)](#)

1 to 10 of 84 Results



Lucy Terminal Tracking Camera (TTCam) Pre-flight Calibration Data



dataverse.lib.asu.edu

Research Data Repository

Records indicate equipment but lacks persistent and verified documentation on equipment that facilitate reproducibility and replication.

“...a custom Raman instrument which was built for the purpose of observing inorganic transformation under microwave heating and at high temperatures in the standard synthetic laboratory environment.”

doi.org/10.48349/ASU/SCXUIW

ASU Library Research Data Repository > Birkel group - School of Molecular Sciences >

Replication Data for: In situ Raman Spectroscopy of Microwave Synthesis of Inorganic Compounds

Version 2.0



Jamboretz, John; Birkel, Christina, 2022, "Replication Data for: In situ Raman Spectroscopy of Microwave Synthesis of Inorganic Compounds", <https://doi.org/10.48349/ASU/SCXUIW>, ASU Library Research Data Repository, V2, UNF:6:ZlglNeG56JeEGPZucA8zwm== [fileUNF]

Cite Dataset

Learn about [Data Citation Standards](#).

Access Dataset

Contact
Owner

Share

Dataset Metrics

67 Downloads

Description

TiO2 anatase to rutile proof-of-concept study

In situ Raman spectroscopic data for the observation of a phase change in TiO2 (titania) from anatase to rutile. These data sets are the results of a proof-of-concept study for a custom Raman instrument which was built for the purpose of observing inorganic transformation under microwave heating and at high temperatures in the standard synthetic laboratory environment. They demonstrate the ability of the new instrument to observe these transformations in real-time and gain a better understanding of microwave heating methods for inorganic synthesis. It is relevant to Raman spectroscopists and inorganic synthetic chemists, especially those specializing in microwave processing.

See [README](#) for additional information.

Subject

Chemistry

Keyword

Raman spectroscopy (LCSH) <http://id.loc.gov/authorities/subjects/sh85111278>
Microwave heating (LCSH) <http://id.loc.gov/authorities/subjects/sh85084961>
Inorganic compounds--Synthesis (LCSH) <http://id.loc.gov/authorities/subjects/sh85203020>

Related Publication

Jamboretz, J., Reitz, A., and Birkel, C. (under review) Development of a Raman spectroscopy system for in situ monitoring of microwave-assisted inorganic transformations. - Manuscript under review

Producer

School of Molecular Sciences (Arizona State University) <https://sms.asu.edu/>

Production Location

Tempe, Arizona, United States

Depositor

Jamboretz, John

Deposit Date





2022-06-17

Date of Collection

Start: 2022-02-11 ; End: 2022-02-14

Software

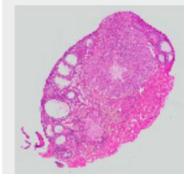
Matlab, Version: R2021B (Mathworks)
Excel
GRBL, Version: <https://github.com/grbl/grbl>

1 to 10 of 205 Files	
	<p>24717_RT_001b.ome.tif 24717/ TIFF Image - 328.9 MB Published Sep 1, 2022 2 Downloads MD5: af6...e58 Full Resolution Image adult</p>
	<p>24717_RT_001b.xml 24717/ HTML - 8.9 KB Published Sep 1, 2022 11 Downloads MD5: f33...cf9 Metadata adult</p>
	<p>24717_RT_001b_reduced.tif 24717/ TIFF Image - 3.3 MB Published Sep 1, 2022 1 Download MD5: d8b...229 Reduced Image adult</p>
	<p>24717_RT_001b_thumbnail.tif 24717/ TIFF Image - 136.5 KB Published Sep 1, 2022 1 Download MD5: ab1...264 Thumbnail Image adult</p>



Zelinski Lab: Cynomolgus Macaque Ovary

Version 1.0



Multispecies Ovary Tissue Histology Electronic Repository (MOTHER), 2022, "Zelinski Lab: Cynomolgus Macaque Ovary", <https://doi.org/10.48349/ASU/BUAU3E>, ASU Library Research Data Repository, V1

Cite Dataset

Learn about [Data Citation Standards](#).

[Access D](#)
[Contact Owner](#)

[Dataset Metrics](#)
24 Downloads

Description

Dataset for histology images from the ovaries of Cynomolgus macaque (*Macaca fascicularis*). These images are associated with the Multispecies Ovary Tissue Histology Electronic Repository (MOTHER), an online repository (<https://mother-db.org>) of ovary tissue histology digital images, funded by NSF (DBI-2054061).

Sharing these histology images will facilitate comparative studies of female reproductive strategies, enable the development of computational models to test hypotheses related to ovarian development and female reproduction, and serve as an educational resource, thereby reducing the use of animals in research.

See the [README](#) for an overview of the dataset, including naming conventions.

Subject

Medicine, Health and Life Sciences

Keyword

ovary, female reproductive system, histology, *Macaca fascicularis* (Cynomolgus macaque)

License/Data Use Agreement

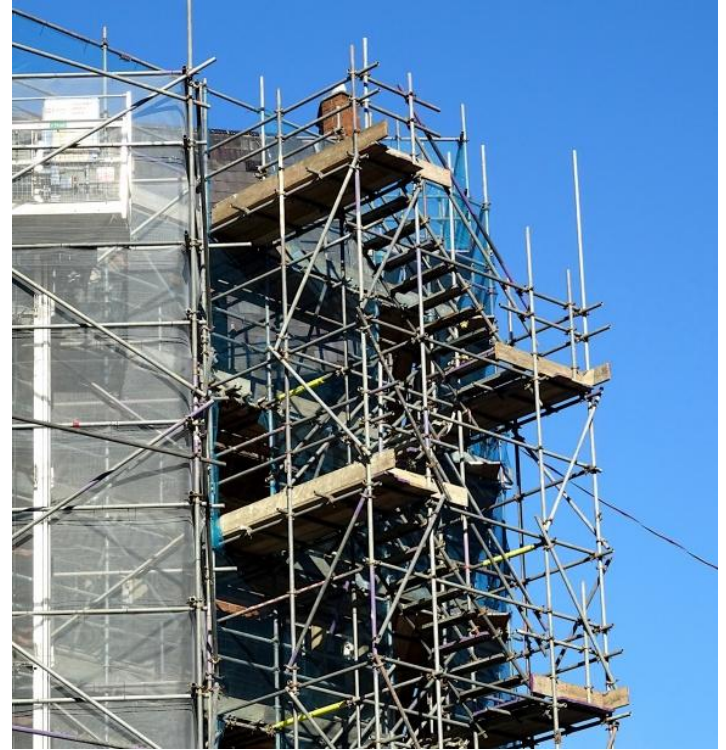


- Files
- Metadata
- Terms
- Versions

doi.org/10.48349/ASU/BUAU3E

Realistic expectations building from today

- Organizing and identifying
 - Location
 - Description
 - Techniques
 - User manuals
 - Provider
 - Photos
 - Rates
 - Availability
- Collaboration
- Ownership



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